## REPORT RESUMES

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RESEARCH SEMINAR ON TEACHER EDUCATION.
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A TEACHER EDUCATION SEMINAR WAS HELD IN CHICAGO, ILLINOIS, ON JUNE 8-16, 1963. PRESENT WERE SCHOOL OFFICIALS FROM 13 MAJOR CITIES, EDUCATORS FROM 16 COLLEGES AND UNIVERSITIES, A MEMBER OF THE U.S. OFFICE OF EDUCATION, AND THE EXECUTIVE SECRETARY OF THE GREAT CITIES RESEARCH COUNCIL. THREE PAPERS WERE PRESENTED--(1) "TEACHER EDUCATION FOR METROPOLITAN AREAS" (F.C. ROSECRANCE), (2) "PSYCHOLOGICAL RESEARCH ON TEACHER EDUCATION" (N.L. GAGE), AND (3) "ADMINISTRATIVE EXPERIMENTATION, INSTITUTIONAL RECORDS, AND NONREACTIVE MEASURES" (D.T. CAMPBELL). THE MAJOR TASK OF THE SEMINAR WAS THE IDENTIFICATION AND DESCRIPTION OF PROPOSALS FOR SIGNIFICANT RESEARCH IN THE SUBJECT AREA. THE MORE SIGNIFICANT PROPOSALS DEVELOPED DURING THE SEMINAR WERE--(1) "THE DEVELOPMENT AND EVALUATION OF SCHOOL-UNIVERSITY TRAINING CENTERS FOR THE PRESERVICE EDUCATION OF TEACHERS FOR GREAT CITIES," (2) "INDUCTION INTO SCHOOL OR INTERNSHIP TEACHING," (3) "THE DEVELOPMENT AND EVALUATION OF CURRICULUM MATERIALS FOR USE BY TEACHER EDUCATION INSTITUTIONS IN PROGRAMS FOR TEACHERS OF CHILDREN IN THE GREAT CITIES," (4) "THE ENCULTURATION OF THE NEW TEACHER INTO THE ESTABLISHED FACULTY," (5) "AN INVESTIGATION OF THE EFFECT OF THE MODIFIED ORGANIZATIONAL ROLE OF THE COLLEGE SUPERVISOR," (6) "MODEL BUILDING AND TESTING AS A RESEARCH APPROACH TO THE IDENTIFICATION OF SUCCESSFUL TEACHERS," (7) "THE RELATIONSHIP OF KNOWLEDGE OF THE SOCIAL MATRIX OF THE CULTURALLY DEPRIVED CHILD AND TEACHER EFFECTIVENESS," AND (8) "THE RELATIONSHIP OF MODELS AND IDENTIFICATION FIGURES TO THE BEHAVIOR OF CULTURALLY DEPRIVED PUPILS." (HB)

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# RESEARCH SEMINAR ON TEACHER EDUCATION

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# RESEARCH SEMINAR ON TEACHER EDUCATION

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Northwestern University in
cooperation with The Research
Council of the Great Cities
Program for School Improvement

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June 8-16, 1963
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The Cooperative Research Branch of the United States Office of Education financed the seminar. In addition, Dr. John B. Whitelaw of the teacher education section participated in the Seminar and made valuable contributions.

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Finally, leadership provided by the Great Cities School Improvement Research Council was instrumental in initiating the Seminar. Both Dr. Benjamin C. Willis, president of the Council, and Dr. Samuel M. Brownell, vice-president, participated in the Seminar.

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# TABLE OF CONTENTS

CHAPTER PAGE

I. THE SEMINAR--BACKGROUND AND OBJECTIVES . . . . . . . . . . 1

II. SEMINAR PAPERS . . . . . . . . . . . . . . . . . . . . . . 16

Teacher Education for Metropolitan Areas

F. C. Rosecrance . . . . . . . . . . . . . . . . . . . 16

Psychological Research on Teacher Education

N. L. Gage . . . . . . . . . . . . . . . . . . . . . . 43

Administrative Experimentation, Institutional Records and Nonreactive Measures

Donald T. Campbell . . . . . . . . . . . . . . . . . . 75

III. PROPOSALS FOR RESEARCH . . . . . . . . . . . . . . . . . 121

IV. PROPOSALS FOR INDIVIDUAL RESEARCH PROJECTS . . . . . . . . 149

V. RECOMMENDATIONS. . . . . . . . . . . . . . . . . . . . . . 166

## LIST OF FIGURES

FIGURE PAGE

I. MODEL OF VARIABLES THAT INFLUENCE TEACHING AND THEIR INTERRELATIONSHIPS . . . . . . . . . . . . . . . . . . 142

# CHAPTER I

## THE SEMINAR--BACKGROUND AND OBJECTIVES

The United States is a land of paradoxes, some of which are of crucial importance to education. In 1962, approximately 58 per cent of all high school graduates went on to some kind of higher education, an increase of 24 per cent in twenty years. Despite this dramatic gain, the drop out problem continues unabated. The need for highly educated manpower is increasing each year, yet if present trends continue, 7,500,000 youths will drop out of school during the coming decade. Chronic unemployment, between 5 and 6 per cent of the total labor force, exists; simultaneously, numerous jobs remain vacant for want of personnel who are qualified to fill them. Industry, business and other private segments of the economy, while plagued with a shortage of skilled manpower, continue to employ teachers and prospective teachers at salaries well above those for teaching, thus contributing to the acuteness of the teacher shortage. In the face of universal concern for quality in education, as many as one-fourth of the teachers in some cities are substitutes or are not fully certificated. This is a nation of cities, yet cities and their unique problems receive little attention in many states where legislatures are dominated by members from rural areas and small towns.

Consequences of paradoxes of the type mentioned are not new to superintendents and staffs of city school systems. They are painfully aware of the teacher shortage, increasing enrollments, inadequate physical facilities, the drop out problem, and the deep financial trouble confronting the schools of the city. Yet, they do not despair, nor are they quiescent in the face of formidable problems. On the contrary, they are taking the lead in research and development programs to provide quality education for all. They are attempting to meet critical and multiple educational problems with systematic inquiry and experimentation. The Research Seminar on Teacher Education is a concrete example of their efforts.

## CITY SCHOOLS AS LABORATORIES FOR RESEARCH

Schools in the great cities provide a laboratory for educational research and for programs of teacher education. Partnerships of continuing cooperation between city school systems and universities need to be further developed. School systems supply most of the educational problems for study as well as the environment in which pressing educational questions may be investigated and new knowledge translated into improved educational practices and programs. Furthermore, schools are key suppliers and consumers of personnel prepared for teaching and educational research.

Schools need to be studied in a broad context. In this sense, education is conceived of as an instrument with which a society may reform and improve itself. Therefore, schools and their environmental contexts are subjects for research that is conceived and prosecuted by teachers, administrators and other personnel from school systems, faculty members from schools of education, colleges of liberal arts, and professional schools typically found in multi-purpose universities. Thus, the trial and error approach to educational problems that is encountered too frequently would be supplanted by research and experimentation conducted by those who are involved in programs of teacher preparation and by personnel from school systems. The research and experimentation would be done in laboratories of social scientists--communities and schools.

A book published in 1962 summarized the responsibility of city schools for research and development as follows: "Urban school systems are destined to take the lead in research and development programs to improve the quality of education. It is in the cities that problems are most abundant and acute: large school systems provide the natural laboratories for their study and can assimilate and coordinate the resources needed for their solution...Urban schools for the future must be centers for research and development, pioneers in school improvement, and leaders for quality in education."[1]

## NATURE OF RESEARCH NEEDED

The fundamental purpose of research is to explain and to be able to predict phenomena by the formulation and testing of hypotheses. It would seem that a point of departure for advancing research on teacher selection and preparation is the accumulation of factual information about what teachers judged by competent educators to be performing satisfactorily actually do in the classroom. However, if the quest stops at this point, only sterile and inert data will have been obtained. Conceptual schemes that will lead to hypotheses are essential. Finally, through testing the hypotheses, "a fabric of interconnected concepts and conceptual schemes" about successful teaching can be developed. A practical suggestion has been offered by Smith:

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[1] B. J. Chandler, Lindley J. Stiles and John I. Kitsuse (eds.), Education in Urban Society, New York: Dodd, Mead and Company, 1962, p. 264.

> We need studies of the sorts of positions teachers assume, and what maneuvers and detailed actions they take under varying circumstances and with different sorts of materials. If these were made, it would be appropriate to speak of the strategy and tactics of teaching. From such descriptive studies we might then go on to developing experimental as well as more nearly adequate theoretical didactics.[2]

A related point and one that seems to indicate the direction for the future for the Great Cities and Universities has been made by Conant:

> ...systematized or well ordered empirical inquiries are one element in the advance of science; the other element is the use of new concepts, new conceptual schemes that serve as working hypotheses on a grand scale. Only by the introduction of a theoretical element can the degree of empiricism be reduced...The essential element in the advance of modern science has been the curious interplay between theoretical notions and the experimentation of the artisan; through such an inter-play scientists have built up a fabric of interconnected concepts and conceptual schemes.[3]

It is hoped that the Seminar reported herein was a significant beginning on the development of "a fabric of interconnected concepts and conceptual schemes" for teacher education for large cities. The next step will demand the application of "theoretical notions" through experimentation of artisans--personnel from city school systems and faculty members for colleges and universities.

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[2] B. Othanel Smith and Robert H. Ennis (eds.), Language and Concepts in Education. Chicago: Rand-McNally, 1961, p. 100.

[3] James B. Conant, Modern Science and Modern Man. Garden City, New York: Doubleday and Company, 1955, pp. 46-47.

## BACKGROUND OF THE RESEARCH SEMINAR ON TEACHER EDUCATION

In the spring of 1956, the superintendents of the Great Cities recognized the need for working cooperatively on their educational problems and organized The Research Council of the Great Cities Program for School Improvement for that purpose. Since that time they have worked together in the areas of vocational education, fiscal policy and problems related to the gray areas. One of the outcomes of the gray area studies has been the highlighting of the crucial importance of an adequate supply of teachers competent to teach in urban schools. For this reason, the Research Council of the Great Cities Program for School Improvement decided to study problems related to the recruitment, preparation, and retention of professional personnel for their schools.

Teacher education was discussed at length at the Council's spring meeting in 1962. The results of that meeting included the tentative identification of teacher education problems of the Great Cities and the appointment of a working committee to conduct a survey of practices in the Great Cities and in the institutions which prepare their professional personnel. The survey focused attention on current practices designed to improve the quality and the quantity of professional staff for the Great Cities. A progress report of current practices and the problems identified was prepared and distributed. A follow-up of selected practices was conducted.

The Teacher Education Project--Progress Report contains responses to six basic questions from fourteen great cities and thirty-six returns from universities and colleges.[4] Brevity of responses and the promising nature of some of the practices described prompted the Research Council to seek additional information from respondents. Additional information on selected practices was published in 1963 under the title, *Teacher Education Project--Follow-Up of Selected Practices*.

The reports are rich sources of information with regard to pre-service preparation of teachers for the Great Cities, recruitment of teachers, the continuing education of teachers, and problems of mutual

The six basic questions are as follows:

1. What is being done by the Great Cities of the Research Council and colleges and universities to attract people to teach in these Great City schools?

2. What is being done by the Great Cities of the Research Council and the colleges and universities to prepare teachers for effective pre-service teaching in Great City systems?

3. What is being done by the Great Cities of the Research Council and the colleges and universities to help experienced teachers deal more effectively with the problems of teaching in these Great City schools?

4. What is being done by the Great Cities of the Research Council and the colleges and universities to help supervisors and administrators deal more effectively with the problems of teaching in these Great City schools?

5. What is being done by the Great Cities of the Research Council and the colleges and universities to develop co-operation between the schools and the colleges and universities in dealing with common problems?

6. What are the problems in the area of teacher education that the schools and the colleges and universities think should be studied co-operatively?

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[4] The Research Council of the Great Cities Program for School Improvement, *Teacher Education Project Progress Report*, and *Teacher Education Project Follow-up of Selected Practices*. Chicago: The Research Council, 1963.

concern to teacher educators and school officials. The Great Cities are meeting their personnel problems with imagination and courage. However, the Committee of the Research Council concluded that: (1) gaps of some magnitude in pertinent research need attention; (2) more efficient use could be made of research findings if communications and planning were improved; (3) a systematic, nation-wide approach to research should result in greater and faster progress in school improvement; and (4) the next step should be a research seminar involving behavioral scientists, representatives of school systems in the Great Cities, research design specialists, and professors of education.

Through the leadership of the Great Cities Research Council, plans were formulated for an invitational research seminar on teacher education. Northwestern University was awarded a contract from the Office of Education and with the Research Council, co-sponsored the Seminar.

## OBJECTIVES

The immediate objectives of the research seminar included:

1. The identification of goals for teacher education for the Great Cities that can point the way to significant and essential new research. The areas to be considered included:
    - --the education of teachers for the Great Cities.
    - --the recruitment, selection, placement, orientation, and personnel practices in general of teachers for the Great Cities.
    - --the inservice program for the education of professionals.
    - --the better utilization of teachers.
    - --both the joint and discrete responsibilities of the schools and of the colleges and universities.
    - --the retention of teachers in schools in Great Cities. (It would be of great importance, for example, if we could find a way to raise the average number of years that teachers teach by one or two years.)

2. The identification of scholars with the knowledge and skills essential to this research.
3. The identification of places where the research can be done.
4. The publication and wide distribution of a monograph summarizing the results of the seminar.

The long range objectives of the seminar include:

1. The development of research projects pointing toward the achievement of the goals identified in the seminar.
    a. A central proposal for the Great Cities Research Council with individual city projects contributing to the goals of the central project.
    b. Individual city projects.
    c. Individual college and university projects.
    d. Co-operative schools and college and university projects.
2. The translating into practice of the desirable findings of the various research projects.

## PROCEDURES OF THE SEMINAR AND OVERVIEW OF THE REPORT

The seminar convened at the Conrad Hilton Hotel in Chicago on June 8 and was in session through June 16, 1963. Present were school officials from thirteen major cities, eighteen educators from sixteen colleges and universities located in various sections of the country, a member of the teacher education staff of the United States Office of Education, and the executive secretary of the Great Cities Research Council. The educators from colleges and universities represented several disciplines--teacher education, psychology, sociology, political science and research design.

Three scholars had been commissioned to prepare and present formal papers. Chapter II contains their papers; one on teacher education with special reference to large cities, one deals with psychological research, and the subject of the third is research design.

The major task of the seminar, the identification and description of important research topics, was accomplished through three work groups. Membership in the groups was constant throughout the nine days. To keep all members informed of progress resulting from deliberations of the small groups, general sessions were held each day where progress reports were presented and ideas and reactions were invited. Thus, the research topics presented in this report, though developed through a single small group--eight or nine people--had the benefit of the thinking of all members of the seminar.

The research topics presented in Chapters III and IV should be viewed as suggestive, rather than definitive. The objective was to identify needed research on teacher education for cities, and to prepare guidelines for the development of research projects; not to finish a design, state hypotheses and specify procedures. Before conducting any of the studies described in Chapters III and IV, refinement and development of the research project will be necessary. However, statements of problems, objectives of research on each, and procedures are presented for the purpose of communication.

Plans for future action are outlined and discussed in Chapter V. In addition, recommendations are presented.

## THE FIRST SESSION

The seminar was opened by Dr. Samuel M. Brownell, General Superintendent of Schools of Detroit, and Vice President of The Research Council.

He reviewed the work of the Council leading up to the decision to sponsor a seminar on research. Next, Mrs. Evelyn F. Carlson, Associate Superintendent, Chicago public schools, discussed the Great Cities program in teacher education. Abstracts of their statements follow:

## Statement by Dr. Samuel M. Brownell

This conference is to identify problems of preparing teachers for urban schools which call for research and experimentation. It is not to find answers, but, it can and should provide guidelines to indicate problems where laboratory and intensive research needs to be initiated. Teachers and principals in large cities need special training in reference to the problems of the changing urban community. Knowledge of the special problems of an urban community requires systematic preparation of the teacher.

City school systems are asked to assume important responsibilities in the most significant part of teacher preparation, i.e., supervised practice, without their role and that of the college being carefully planned or agreed upon by each party. Formal and systematic channels of communication need to be maintained between personnel in city school systems and teacher preparing institutions. College and university personnel who prepare teachers, in many instances, have not had or have not recently had experience in a city school system. In fact, it is not uncommon for faculty members to know more about schools in other nations than they know about schools in large cities here at home. Perhaps we should give Fulbright fellowships to scholars to study and participate in

United States urban public schools.

It is my belief that if we are to improve the quality of education in the Great Cities we need: (1) To develop with colleges that prepare teachers a careful definition of the respective roles of the college and of the city school system in the initial preparation of teachers; (2) To consider in-service education needs of teachers and principals; what is now being provided by cities, universities and graduate schools, and how we may utilize best resources to make it desirable and profitable for teachers and principals to continue to learn. Clinical professorships, joint university-city school staff appointments, cooperatively planned and conducted experimental projects, might help to bridge the present gaps between schools and universities; (3) Special and specific study of practice teaching as it now exists.

City schools are users of the product of teacher education institutions, and the success of the schools rests more significantly on the competencies of teachers than on any other factor. Increasingly city school systems are participating in pre-service and in-service teacher education, and because it is increasingly apparent that college and university staffs are unable to provide adequately and appropriately for the needs of city school teachers unless they understand and participate in city schools (and similarly that city schools are unable to contribute more effectively to teacher education unless they understand and participate in the total teacher preparation program) we should accelerate the pace and extend the scope of research in respect to pre-service and in-service preparation of teachers in large cities.

## Statement by Mrs. Evelyn F. Carlson

It was a little more than a year ago that Dr. Samuel Brownell presented his challenging statement of the problem of urban teacher education to the superintendents and board members assembled at the spring meeting of the Great Cities Research Council.

As the various superintendents added their comments it was apparent that the area of concern and the types of concern described by Dr. Brownell were common to all of the large cities. As a result, it was the unanimous decision of the group that a study be undertaken to find ways and means of solving the problem.

Staff members of the large cities were selected by the superintendents to study teacher education and to suggest possible next steps. This was not the first study undertaken by the Great Cities Research Council. The first had been vocational education; others had followed and are continuing--work in the areas of fiscal policy and work in the so-called gray-area projects. These last have been variously described, including such titles as the culturally deprived and culturally disadvantaged.

In the formation of the Research Council, the superintendents had recognized the advantages of sharing ideas, research results and information about promising practices. For the gray-area projects a design for research was developed as a co-operative venture. Roy Clark of the Office of Public Instruction of the State of Illinois and Dr. Harry Rivlin of New York City visited each of the Great Cities and discussed the problem with the superintendents and members of their staffs. Finally, a central project was approved and cities selected a segment of it as an individual research problem.

From the beginning, as indicated in Dr. Brownell's statement, we recognized that much had been done in an effort to solve our problems. Much has been done by the colleges and universities; much has been done by the cities. But it is not enough. With changed patterns of living; with the mobility of people within our country from rural areas to urban, and within the urban areas; with the increased birth rate and its effects on school needs, both in number of teachers and in number of school buildings; and with the explosion of knowledge as well as the accelerated rate of technological change, there was a recognition by members of the Research Council of a need for a breakthrough in teacher education.

The members of the Great Cities Research Council agreed that study and research comparable to that of the gray-areas projects was in order. Further, it was agreed that, from the outset, we would seek the cooperation of the colleges and universities. We saw the colleges and universities and the cities as partners in the effort.

Certainly, there are some areas in which the advice and counsel of the colleges and universities are crucial to success in our endeavor, the theoretical scheme and basic research, to name but two. Certainly, there are problems that require active participation of the large city schools--the realities of the situation, the actual theatre of operational endeavor.

A series of steps was suggested. We needed to know what had been done that was considered most promising by the colleges and universities and by the schools. We needed to know what were considered the greatest problems by the colleges and universities and by the schools. And so, we conducted first, a survey and second, a follow-up study of existing promising practices and attempted to identify the most significant problems.

Finally, it was decided that, to move into urban teacher education studies comparable to the gray-areas projects with the greatest possible hope of success, we should gather together resources from research and then, meeting as partners, hold a seminar of representatives of colleges and universities and of members of the staffs of the Great Cities Research Council. This seminar is the result of that planning. Certainly, with the quality of the participants assembled here, we should be able to end this session with topics that will not only be significant but researchable.

This opportunity, through the financial assistance of the United States Office of Education and through the willingness of Northwestern University to sponsor this meeting, is of inestimable value. The problems that we expect to discuss at this seminar are indeed great; the goals we hope to achieve in the next few days are great; but the people assembled here bring great gifts to the task, and the results cannot help but measure up to our high hopes.

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# CHAPTER II

## SEMINAR PAPERS

Teacher education for the Great Cities has needs in common with teacher education everywhere. However, the cities do have some problems and needs that are unique. With the large proportion of children of the United States now in cities, and with the increasing urbanization trend, the solution of the teacher education problems of the Great Cities is an imperative for our times. What are the more perplexing educational problems in the large cities? What are some blocks to effective teacher recruitment? How may teachers be prepared for assignments in underprivileged sections of the city? How may effective in-service education programs be maintained? It was to these questions that Dean Rosecrance addressed his paper which follows in its entirety.

### TEACHER EDUCATION FOR METROPOLITAN AREAS

F. C. Rosecrance, Dean
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Any consideration of the problems of educating teachers in or for great cities must begin with a reference to metropolitan area problems. A detailed analysis of those will be covered in a later paper. For the present let me quote a joint statement issued by some prominent business men more than six years ago. It reads:

> Half a million slum families have been cared for in new public housing since 1933. But more slums spawn each day, and five million families now remain ill-housed. We build a fine new limited-access highway and speed up urban traffic with one-way

> streets, only to see worse congestion and bottlenecks elsewhere; we cut the work week and develop a wage system under which every working family can have a car, and then destroy the value of the car with parking problems and congestion, both on the highways and in working, living, shopping and recreational areas; we encourage homes in suburbs and then destroy their advantages with crowded schools, inadequate water and sanitary facilities, suddenly conceived shopping centers and the lack of protective zoning and enforced building codes.

The migration of families to urban areas contributes to the problems that have been mentioned; and there is also the much-talked-of population explosion.

Dr. Robert C. Weaver, speaking in Detroit early in May, said that he anticipates a population increase in the United States of between 65 and 80 million by 1980. Meeting the needs of this increased population may keep the wheels of industry turning and thus help to guarantee our prosperity; but if 70 per cent of our people continue to live in urban communities, all of our present shortages will be aggravated. We will need 20 to 25 million new homes, more than a million new classrooms, countless new streets and utility lines. We will need stores and churches and libraries, distribution systems for goods, transportation systems for people, and communications systems for ideas.

One of the most crucial questions caused by this situation relates to employment. In 1975, when we will have a labor force of between 68 and 78 million, will there be plenty of jobs for everybody or not enough work to go around? Suppose there isn't sufficient work--who will get the jobs and what will the role of education be then for the prospective job holders and for those who cannot find employment?

We must view our present predicament in the light of the future as well as of the past. The urgent need felt everywhere for a change in the education of youth is not without something of a counterpart in the past. Twenty-five years ago the American Youth Commission conducted a "Study of the Conditions and Attitudes of Young People in Maryland between the Ages of 16 and 24," and the results of the study were later validated for the country as a whole. Summarizing the findings, the Director of the American Youth Commission, Dr. Homer P. Rainey, emphasized the following points:

1. The necessity for equalizing educational opportunities for all youth
2. The ominous gap between school and employment
3. Lack of relationship between the training young people receive and the jobs they enter
4. The necessity for the guidance of youth
5. The importance of recreational needs because of unemployment and reduction in hours of labor
6. The necessity for attention to health education
7. The indifference of youth to ballot issues and other civic responsibilities and
8. The need for community planning for youth.

During the depression period two agencies were established by the Federal Government to help meet the needs of young people--the Civilian Conservation Corps and the National Youth Administration. The C.C.C., set up in April, 1933, put 250,000 unmarried men between the ages of 18 and 25 to work in forests, parks and soil-conservation camps throughout the country. This program reached none of the girls, and one of the limiting conditions for enrollment in the C.C.C. was that the parents had to be recipients of public relief. The vocations of the parents were of the semi-skilled or unskilled types. In addition to the conservation work, the C.C.C. camps maintained an educational program which offered a large number of classes in vocational fields. Work in counseling and guidance was also greatly emphasized.

The National Youth Administration established in 1935 tended, through student aid and work projects, to keep youth in school. In March, 1938, 483,335 persons were being helped to stay in high schools and colleges.

In 1940 the Selective Training and Service Act was passed by the U. S. Congress, and seventeen months later the U. S. entered World War II. Because of the urgency of war needs and the long-run recommendations of the Civilian Conservation Corps, the National Youth Administration and the American Youth Commission were largely ignored.

In June of 1961 James Bryant Conant published his Slums and Suburbs, a commentary on schools in metropolitan areas. A study of his summary as to the needs of the schools in the suburbs and the large city slums indicates many of the same problems which were listed by the C.C.C., the N.Y.A. and the A.Y.C., Dr. Conant found that:

1. The contrast in the money spent per pupil in wealthy suburban schools and in slum schools of the large cities challenges the concept of equality of opportunity in American public education.
2. Social dynamite is building up in our large cities in the form of unemployed out-of-school youth, especially in the Negro slum.
3. The schools should be given the responsibility for the educational and vocational guidance of youth after they leave school until they reach age 21.
4. Increased attention ought to be paid in both slums and suburbs to developing meaningful courses for pupils with less than average abilities. To this end consideration should be given by every school and community to the expanding of work-study

programs for slow students and to the provision of at least an auto mechanics shop for boys in every high school in metropolitan areas.

5. Employment opportunities in the large cities must be promptly opened on a non-discriminatory basis. Because of the attitude of some management and labor, this can probably be accomplished only through the use of federal funds.
6. The answer to improving Negro education in the large Northern cities, Dr. Conant thought, is to spend more money to upgrade Negro schools, many of which are in slums, rather than to effect token integration by transporting pupils across attendance lines. Fully integrated teaching staffs are a necessity as well.
7. More teachers and perhaps higher teacher salaries are necessary for schools in the slums than in either the high income districts of the large cities or the wealthy suburbs. Special training programs should be instituted for teachers in slum schools.
8. No effort should be spared in slum areas to enlist the support of parents in the education of their children. To this end, adult education programs should be improved and expanded.
9. Big cities need decentralized administration in order to bring the schools closer to the needs of the people in each neighborhood and to make each school fit the local situation.
10. We need also to have nonpolitical, honest school boards composed of high-minded citizens who can differentiate between policy-making and administration.

Dr. Conant concluded by saying, "To improve the work of slum schools requires an improvement in the lives of families who inhabit the slums, but without a drastic change in the employment prospects for urban Negro youth, relatively little can be accomplished."

It would seem that the congerie of problems presented by the public and private agencies of the 1930's and by Dr. Conant in 1961, as well as what we know firsthand about the problems which confront the Great Cities School Improvement Program, requires a greatly expanded program of research and extension service and marked improvement in our programs for preparing teachers.

## Some Perplexing Educational Problems

Before beginning a discussion of what needs to be done to prepare teachers adequately to serve in inner city (or other) schools, there are a few matters which require some discussion. One of the first of these is that we must decide whether our schools are to do many things or to confine themselves to educating youth. I believe the answer is that the schools must do those things without which learning will not take place. The danger is that we will become more interested in the auxilliary tasks and let our eyes drift away from the main target. Certainly during the Depression we learned that you cannot teach children arithmetic if they have empty stomachs. The main target in this instance is the learning of mathematics, not the hot lunch program. The main task of schools is education, not social welfare.

We need also to consider the implications for education of the proliforation of knowledge, which now doubles every ten years, and of the revolutionary advances in science and technology. Somehow our "average" students, with I. Q.'s around 100, must develop the ability to master a far greater body of knowledge than at present and to become familiar with scientific concepts which today are understood by comparatively few students. In other words they must be able to handle problems which are now within the capacity of those who now have this order of ability and will need to be able to deal comfortably with problems now handled only by the near geniuses, those with I. Q.'s around 170 to 175.

Those higher levels of ability will be necessary also as the casting of the ballot intelligently becomes increasingly difficult. No problem now is purely local--it is regional or national; and no problem is purely national or inter-continental--it is global. Decision making at the ballot box is dependent on the comprehension of intertwining complex problems, including political, economic, security and human relations problems. We need to remember that we are now preparing children to live in the 21st century and to face problems which are hardly within our present ken.

How can we hope to push all students to higher levels of achievement? I am quite sure that we must begin by stretching the abilities of the very young child. Our biggest hope probably lies in the fact that the great majority of people have reserves of ability they never find it necessary to call upon. We may get some help in learning how to entice the student to push himself to his limits by observing and adopting some of the methods used by teachers of the handicapped, whose chief task has always been to encourage the greatest use of the abilities which remain to the deaf, the blind, the crippled or the mentally retarded child.

Again, educators must try to find some agreement as to what constitutes a competent teacher. In an article published in 1958 it was pointed out that the teacher must deal with students on a one-to-one basis, must know how to find out the individual's interests, abilities, potentialities, problems and prospects. He needs to know also how to deal with young people in groups of varying sizes. He must teach content and develop in his students the skill of learning how to think. He must know how to encourage them to be creative--to write poetry, to compose music, to draw and paint, to model a figure and even to develop new ideas. And always he must help youth achieve a sense of values in life. During the last five years studies have been made of the cognitive styles of teachers and children, and there has been much emphasis on the structure of knowledge and creativity in teaching. Still, in spite of the progress which has been made, we have yet to reach full agreement on what should be the specific competencies of a good teacher.

Fourth, many educators feel that a well-trained teacher should be able to teach children from any economic, racial or cultural group, while others believe that at least under today's conditions, those who will teach or are teaching in our depressed urban areas require training and practice over and beyond what is necessary for the teacher in the small town or the suburb. The purpose of this Seminar would seem to make it clear that we believe that the Inner City teacher requires specialized training and more or less continued in-service assistance if he is to succeed.

Two studies published recently by a North Central Association committee demonstrate that teacher-education institutions do not provide the adequate preparation for understanding children of different social, cultural and economic backgrounds. Teachers in the field corroborated this statement by reporting that they had not been prepared to deal with children whose background was different from their own middle class or lower middle class status, and that their work was hampered by lack of preparation for dealing with persons of differing cultural patterns. Children who live in culturally deprived areas merit specially trained teachers just as much as do the children who are deprived of hearing or sight or who have the afflictions of mental retardation or emotional disturbance. It should be observed that we spend a great deal more money on preparing teachers for the latter.

And fifth, in whatever is to be done, the interest and support of parents in the education of their children, from pre-school years on, is so basic to successful teaching that ways of enlisting this must be found and given priority. The thirty million immigrants that came to the United States during the nineteenth century regarded education as a ladder by which their children might climb to social and economic levels that their parents could not achieve. In all too many Inner City families today there is no such faith in education. Parents fail to grasp the potentialities of schooling in freeing their children from the narrow lives they themselves have led. In Detroit today there are 20,000 high school graduates who cannot get jobs. What are the chances for a youngster who drops out of school? Revlin stated it well when he said,

> The school can either play a major role in helping these children and their parents to see the infinite possibilities for advancement which education opens up before them, or it can corroborate the feeling some of them have that compulsory education is an unreasonable governmental requirement that stands between them and what they want to do!

High aspiration levels of parents tend to bring forth similar aspiration levels in youth, and it is necessary to enlist the support of parents in order to do more with and for young people.

Two additional points which can only be mentioned here, but which have considerable relevance to the success of the Great Cities School Improvement Program are the provision of schools whose plant, facilities and staff are comparable to the best of the schools in better areas; and the inclusion in these schools of terminal, technical education programs.

## Teacher Recruitment

To the representatives of large city school systems as well as of collegiate institutions, the problems in the recruitment of teachers for inner city schools loom large. In a number of cases the sensitivities of the two groups were almost identical, though there were some variations. The major obstacles they seem to see to recruiting teachers for depressed area schools are five in number.

First, there is the problem of how to create for new teachers a better image of the big city. Quite some years ago the teacher in a large city held a prestige position. He received a bigger salary and was afforded better facilities. The city school had a better curriculum and more effective supervision; it provided more opportunities for professional improvement and advancement. In general the city offered better living conditions. How can teaching in a large city school system be restored to such a prestige position?

Teacher educators reported that many graduates of their institutions are interested in large city school teaching, but fear being assigned to less desirable schools. One said that it was commonly thought that "the worst" schools are used as "Siberia for beginners." Another said, "The real problem is the fear new teachers have of teaching in changing neighborhoods." Another reported the apprehension of teachers that they might not understand nor be able to deal with lower working class pupils or those from minority groups. There appears to be a reluctance of middle class teachers to accept positions working with culturally deprived children and parents in down town areas.

Certainly the picture of general teaching conditions in large school systems, resulting from the description of "blackboard jungles" as reported by the mass media--radio, television, movies, newspapers and magazines--is not a favorable one. To those of us who believe that teaching in an underprivileged neighborhood is more satisfying than working in an overprivileged area, it is important that some attempt be made to counteract this unfair image. As a first step, perhaps a status survey should be made to determine what image Great City teachers themselves have of working in a large city. The results of such a survey should be studied intensively. The favorable aspects should be reported to the mass media mentioned and to teacher education institutions.

Another useful inquiry would be to accrue and to study the views of principals and teachers now in large city schools concerning steps to be taken which might help to persuade able young teachers to work in large cities.

Second, some large cities, in order to avoid community pressures in the selection of teachers, require prospective teachers to take examinations. Among the well-known examinations given is the National Teachers' Examination, upon which some large cities require a specified minimum rating for employment. Teacher educators report that many prospective teachers do not like to take whatever examination may be prescribed. Hence, this practice constitutes an obstacle to teacher recruitment in large cities.

Since other professions require a basic content examination as well as a clinical examination of graduates of accredited schools for licensure, it does not seem unreasonable that teachers be required to take them, assuming that the examinations are valid and sound in type and content. However, a difference between teaching and other professions is that in the latter all candidates must take the examinations. When they are required by large city school districts and not by other, candidates for teaching can avoid being examined by accepting positions outside large cities. Not only, as now used, are these examinations deterrents to the teacher, but they often place the large city in an unfavorable position to be competitive with other districts because of the date and place of giving the examinations and the late establishment of eligibility lists from which administrators must select new teachers.

At the moment in Michigan, educators are studying a Proposed Professional Practices Act for the Teaching Profession, which, if enacted, would require all teachers to pass a content and a clinical examination to be licensed. Perhaps a dozen other states are moving toward making teaching a real profession. This matter deserves a great deal of study.

Third, practititioners and teacher educators agree that another obstacle is the inability of a recruiting officer from a large city to offer the candidate a specific position rather than mere employment. In contrast with this situation is that of smaller school systems where a prospective teacher will be told that she will be assigned to a specific school in a specific neighborhood under a specific school principal. Teacher educators believe that it is particularly important that beginning teachers know in advance the kind of situation in which they are expected to make good. The school system, too, has a stake in providing the best opportunity for such teachers to succeed. It also has problems. If new teachers are placed in "protected schools," what is to be done about seniority rights of older teachers? In some cities seniority determines the assignments of teachers. Do experienced teachers have the right to expect a transfer, when requested, to vacancies in the better neighborhoods? If special assistance is given to the teachers of inner city schools, would we cut down on the number requesting transfer to schools in better areas as soon as openings are available? Assuming that certain new teachers are more likely to succeed in schools in protected areas, what shall we do if there are no vacancies in such areas? We come, then, to the question of whether new teachers should be assigned to schools in culturally deprived areas. We can probably solve the problems of advancing assignment dates and removing red tape in order that prospective teachers may be offered specific positions rather than mere employment; but, if we are to appoint new teachers to such schools, then it is incumbent upon the teacher education institutions and the school systems to work out a better plan than we now have to insure that the children will benefit and the teacher be successful. This problem will be dealt with further in the section on pre-service education.

Fourth, the representatives of large city school systems report that they believe that, if the beginning teacher were assured of continued supervision from the college or university, he would be less reluctant to join the staff of a large city system. At present the beginning teacher usually does not have such continued help. Teacher education institutions do make some follow-up studies, but few of them have the money and the staff time to provide the supervision here envisioned. Teacher educators also cited inadequate orientation and lack of supervision by the school system. Reference will be made later to a proposed contractual relationship between the university and the school system, which will include an arrangement for the continued supervision requested.

Providing continued supervision to the beginning teacher would be of considerable advantage to the university staff in gaining a better understanding of the problems that beginning teachers face in whatever kind of situation they are placed.

This area of university-school system relationships deserves further study. If a substantial study could be made, some of the problems of all beginning teachers might be minimized.

Fifth, some large city representatives believe that the problem of providing incentives for teachers to stay in schools located in culturally deprived areas should be studied. What are the factors that cause teachers to remain in teaching positions in difficult schools? What is the influence of the school principal? If leadership is a crucial factor in recruiting and holding teachers in culturally deprived area schools, how should principals for such schools be selected, and how can the right type of leadership be assured? What is the effect of class size and the extra-teaching duties assigned to teachers? It probably can be safely asserted that the work load expected of first-year teachers is too heavy. The size of classes is large, and many extra-class supervisory duties are expected of them.

What is the influence of faculty morale? Does bigness tend to make the teacher feel insignificant? In a large city, teacher educators say, the enthusiasm of the new teachers is likely to be squeezed out of them rather quickly by the older teachers, who tend to get into a rut or a routine. This lowers the morale of the young teacher coming into the system.

Other deterrent factors mentioned by teacher educators were lack of modern facilities, equipment and supplies needed for instruction; the high cost of living; and the lack of adequate housing.

The administrators of large city school systems wish to know how to check the movement of their experienced teachers to suburban schools. How also can experienced teachers in fine suburban schools be induced to take positions in underprivileged city areas? Can this movement be aided by giving premium salaries to those teachers, as suggested by Dr. Conant? *And if this were done, would it be regarded as a Merit System type of rating?*

Other factors listed that are related to obstacles in recruitment of teachers were lack of a definite program by colleges for teachers in culturally deprived areas, lack of special recognition for teachers who serve in difficult teaching situations, pressure group influences, inbreeding, unqualified personnel and "moonlighting."

## Preparation of Teachers for Assignments in Underprivileged Areas

The first problem of the teacher education institution which is preparing teachers for work in underprivileged areas is to identify those who have a good chance of achieving success in this work. This is an area in which research programs conducted in many universities and colleges, with their results pooled, would be of considerable value. But we do have a couple of clues which might help in identifying those with the necessary qualities.

Perhaps the first of those would be a sense of dedication and commitment not unlike that of the young people who have accepted assignment in the Peace Corps. The commitment should be specifically directed to a desire to work with children of whatever race or economic status. Sometimes this sense of commitment may be present in the young person when he enrolls in a college of education. In others it may develop during the training period.

The North Central Association study to which reference has been made may provide a second hint. Those who made this study found it possible to classify teachers into two general groups, allowing for some overlapping and exceptions. One of the groups espouses subject-centered values, while the other favors human-centered values. Both groups believe that children should learn, and both are desirous of helping them to learn. However, the first group rated the formal methods of university instruction as worthwhile and active methods of instruction as of little worth. Members of this group do not usually take part in community organizations nor participate in youth service work. They feel highly comfortable in handling intellectual matters and quite uncomfortable with non-intellectual situations, such as dealing with parents.

If further research supports these findings, it might suggest a way to identify early in their preparation period prospective teachers who have some of the qualities necessary for successful teaching in big city schools.

A repeated emphasis by both large city administrators and teacher educators, as well as by Conant and other writers, was the need for the teacher in an inner city school to understand and participate in the life of the community in which he teaches. How does a disadvantaged neighborhood differ from the middle class or lower middle class community in which he probably grows up? What are the disturbing effects in lower class neighborhoods of modern technology with its power and automation? Walter Ruether has charged that Americans are more complacent about our continuing unemployment than is any other civilized nation. What does it mean to be a child in a home where the father has lost his job, or perhaps has not had a job as long as the child can remember? How do children in these neighborhoods spend their time outside of school hours? What are the special problems of children in bi-racial neighborhoods or in a Negro community? How is the child regarded at home--is he loved, tolerated or abused? And what aspirations have the parents for the child? Are they aware of the potentialities of education for freeing him from his deprived environment or do they see only "more of the same" for him throughout his life?

For prospective teachers the beginning of an understanding of these problems may be found in courses in anthropology, sociology, psychology and human relations and later by a course on the urban school. These courses should be reinforced by as many contacts with schools in the poorer neighborhoods as possible, beginning with the earliest years of a teacher's preparation and continuing through his practice teaching experience.

All teachers need to understand not only the local scene in which they serve, but also the larger scene in which the children are going to live, including his metropolitan area, his state and nation and the world. It is especially important in underprivileged areas that children be made not only cognizant but familiar with what is going on outside their very limited milieu. The teacher, through the school principal, needs to become aware of the many resources in the community that may be of help.

While emphasizing changes in teacher education for those who are preparing for specialized work in the inner city area, we need to keep in mind that general teacher preparation programs of today leave much to be desired. One of the objectives which should be high on our list is making it possible to have formal presentations in the classroom followed immediately, or as soon as possible, by direct or controlled laboratory experiences. Since every teacher must deal with children both as individuals and in classes, these two phases of his work should be covered in the laboratory experiences. The theory-practice learning cycle begins with the observation of individuals and of groups of children, separately considered. Formal presentations and subsequent practice relate to descriptive levels, analytical levels, interpretive levels and inferential levels. It seems fairly certain now that this process contributes significantly to increasing the understandings and skills of all teachers.

Here and there over the country there are interesting experiments being conducted and substantial results achieved, which have much to offer our teacher education programs. A simple research study which would involve little more than bringing together descriptions of such programs would be of help in improving the education of teachers in this country.

In working to improve our programs, we need to keep in mind educational objectives that deal with knowledge, intellectual abilities and skills, including comprehension, application, analysis, synthesis and evaluation, all of which are central to teaching and should be a part of every professional preparation program. Benjamin S. Bloom's book, Taxonomy of Educational Objectives, deals in an effective way with these matters, and I recommend it to anyone interested.

The ABC's of dealing with children from depressed areas of differing racial or religious backgrounds, ethnic origin, social class or economic status are not generally known. Such findings as we do have from research studies in this area should be brought together and made available. A study which might have particular value for a teacher education institution would be to interview its own graduates who were or had been teaching in inner city schools as to the problems they had encountered for which they did not feel they had been properly prepared. When possible, their suggestions should be incorporated into the curriculum for teachers in training.

It is important also to give specific help to the prospective teacher in the fundamental matter of maintaining control in these classrooms. One person suggested that the teacher should be educated and the school and community organized to handle the misbehaving child.

Another point at which improvement is much needed is in the regularization of our practice teaching. Probably this objective could best be accomplished by setting up a contractual relationship between the university or college and the public school system. Such a relationship would make the program of student teachers a matter of mutual agreement between the two, both as to what the school would like to see the student teacher do and what the teacher education institution would like to see. Under such a cooperative relationship each would share important responsibilities for the professional education of the teacher, which must necessarily be related to what has gone on before the candidate presents himself for practice teaching as well as what happens during this practice.

If money and appropriate research were available, I can see considerable value from developing in one center a demonstration project that would show desirable practices in the preparation of teachers, including desirable relationships with the public school systems.

It is important, I believe, that in adding some of the activities that have been mentioned, we do not crowd out others that are also of special importance. We are constantly being made aware of the need for increasing the liberal arts courses of teachers in training, and we should make sure that these are not decreased because of additional professional work. One person said, "For better teachers develop a better background of general education."

Moreover, all teachers need to learn about all kinds of children--the normal, abnormal, the talented, the handicapped--especially how each group learns. This work too should not be eliminated or rushed through because of the need for expanding the progress of other ways. This danger of crowding out desirable train-experience leads to the almost inevitable conclusion that the training period for teachers should be extended.

A device which might do much not only to interest the prospective teacher in choosing to work in inner city schools and to sustain his interest, but which would also add greatly to his effectiveness and his morale on the job, would be to group these students in teams of three or four, who would work together during their formal education program and in their practice teaching and negotiate for assignment to the same school upon graduation. Careful evaluation of their preparation and their team effectiveness should follow.

The problems of method and curriculum are central to all teacher education at both the pre-service and in-service levels but there is not time to consider them here except to point out that for those who plan to teach in inner city schools we need to put special emphasis on ways in which the teacher can help to make up in some degree for the cultural deprivation of the children.

## Continuing Education of Teachers

Today more than ever before we are aware that a college cannot prepare a teacher--it can only begin his preparation. If we ever thought a teacher was prepared once and for all, the explosion of knowledge and the rapidity with which it becomes out of date has disabused us of the idea. Furthermore, we now recognize that the teacher is being educated daily by the various influences that play upon him.

How can we best assist the in-service teacher? There are a number of practical measures which will help. First, the contractual arrangements between the university and the school systems should include supervision by the college for at least one year after the conclusion of the teacher's formal training. Second, the school system and the college need to provide year-round workshops from which teachers can gain encouragement and professional help. They need to withdraw periodically from their situations long enough to see them in perspective.

Again, a good in-service education program will have a carefully worked out plan to introduce new teachers to the work in disadvantaged schools. It has been suggested that, to develop the teacher's understanding of youth in lower class areas, the teacher should be assigned first to a class of only three or four pupils, the number being gradually increased until the class reaches standard size. A second suggestion for the induction of new teachers is to make them members of a teaching team. It seems obvious that a successful orientation and induction program is important to successful teaching in inner city schools, but we cannot stop there. Teachers in our depressed areas are facing the most difficult problems of educating children, and they more than others need more or less continuous help and encouragement if they are to succeed and find satisfaction in their work. How best to provide the necessary help requires intensive study and experimentation.

All teacher education programs need to be examined for their effect upon the participants. In the areas of our consideration we need to know whether it is better to re-train experienced teachers to work in underprivileged neighborhoods or to have special programs of pre-service education for this purpose. The answer may well be that we need both.

Sharpening the focus on the effect on participants, we need to identify the factors in both the pre-service and in-service education programs which have been proved most helpful in the work of teachers in inner city areas. Obviously, if these could be discovered, school systems and colleges would be more likely to know what to do.

Narrowing our attention still further, we might ask whether teacher-education programs could be improved if the personality attributes and the teaching styles of successful teachers in disadvantaged schools could be identified. What kinds of classroom problems do such teachers perceive that are not perceived by less successful teachers?

It is difficult to separate the characteristics of a program from the characteristics of a person. Does the program make a person different, or was he born that way? For example, would a study of the socio-economic origins of successful teachers be related either positively or negatively to their success in differing socio-economic areas? What are the job satisfactions of large city school teachers, and what are the sources of these in various types of large city schools? What do we know about the factors that cause teachers to remain in teaching positions in difficult schools? Was it the pre-service or in-service program, the influence of the principal, the influence of parents, the faculty morale, the class size, the building and facilities?

Answers to the foregoing questions would be useful to both public school systems and teacher education institutions, particularly as they relate to selection and implications for the pre-service and in-service teacher education program.

Perhaps the prime problem met by city teachers who work with the underprivileged is that of motivation. What can be done for pupils who lack any motivation toward learning? Even in the slums those pupils who are highly motivated can be taught. Earlier mention was made of the necessity of working with parents, for pupils' attitudes are usually the reflections of the attitudes of adults. In this connection what do we know about teachers' attitudes toward underprivileged children? If they are not constructive, what ways can be devised of improving them?

Eventually, the problem of motivation comes down to that of the disadvantaged children themselves. How do they see life? Is the school thought of as a jail, a place of unbearable torture? Every class has a power structure. We need to make sociometric and other studies of all classes in inner city schools, but particularly of "troublesome" classes. Only when pupils come to believe in teachers as their friends and in schools as a source of help and encouragement, can much learning occur.

The teacher, the pupil and the curriculum are the keystones of education. It is the third that has not been considered and cannot be considered adequately in this paper. However, some questions for thought should be raised. What are the implications of cultural deprivation for curriculum materials at the kindergarten-primary level? Would it be a good idea to study the play and home activities of young children as a basis for providing appropriate curriculum activities and experiences at this level? What suggestions can be made for a variety of curriculum materials useful for upper grade centers? What would be a clear and defensible guide for the selection of such materials? What enrichment activities can we carry on that would make up in some degree for what these children have missed?

Even the best curriculum may be murdered in the hands of an unskilled worker. What methods work best with underprivileged children? Should the effectiveness of various permissive procedures of teaching be compared with more traditional procedures?

During recent years several proposals have been made regarding the differentiation of the tasks of teachers. Large city schools are not only large--they are complex. From the viewpoint of those proposers, an ordered sequence of positions needs to be devised, each of which calls for different competence, experience and training. Is it possible that the installation of teaching teams, composed of teachers in the different positions, would help in the problems of recruitment, in successful functioning of teachers, and in providing continuity in underprivileged schools?

Finally, a school is usually no better than its chief administrator. We need to know much more than we now do about selecting and preparing successful administrators for inner city schools. However, we also need to identify critical factors in the administrative style which facilitate successful teaching in such schools.

As one reviews the various research problems that have been suggested, he is struck by the differing views of teacher educators and large city school administrators, at least on one of the principal questions before us. School administrators tend to believe that teacher education institutions should have a specific pre-service program for teachers of underprivileged children. Teacher educators tend to believe that the best candidates for the teaching of such children are experienced teachers, who need only supplementary training. Undoubtedly both are partially right and partially wrong. This important task requires the cooperative action of both the university and the public school systems.

## In Conclusion

May I remind you that last year we celebrated the end of the first century of the founding of the American land-grant college system. The American economy has benefited greatly from the contributions of its integrated and coordinated program of teaching, research and extension work in agriculture and the mechanical arts. This program must continue.

At the time of the passage of the first Morrill Act, 60 per cent of the labor force was working on farms. In 1960 only 9 per cent was on farms, and it is estimated that by 1975, 6 per cent of our national labor force will be sufficient to produce all our food products. Thus, within this century, the population of our country has changed from a rural civilization to a society where 70 per cent of the people live in large urban communities.

In the nineteenth century it was the social need rather than a need for additional higher education which was the reason behind the passage of the Morrill Acts. The conditions which prevail in our large cities today, and which were briefly outlined at the beginning of this paper, constitute an overwhelming social need in the 1960's that requires a comprehensive program of research, training and extension services in metropolitan area problems. There has been a marked change in the kinds of problems and needs faced by our country since 1862, and today it is the urban problems and urban needs of which this paper has dealt with only one part, which cry out for remedy. It is proposed now to suggest the enactment of the counterpart of the Morrill Act for urban social needs--in other words, an Urban Grant University Plan.

Urban universities and the public schools cannot solve problems alone, but working hand in hand with other agencies, through research training and extension services, they can make great contributions to the solution of the educational, cultural, social and economic problems of our times.

Conceptualization is a prelude to research on teacher education. Such conceptualization might well start with the development of a framework for research. What are the major variables to be concerned with? What are useful rubrics for research on pupils in the Great Cities? What knowledge is needed concerning personality traits of teachers for culturally deprived children? What are the crucial problems needing research in teacher education? Professor Gage deals with these questions in his paper.

## PSYCHOLOGICAL RESEARCH ON TEACHER EDUCATION FOR THE GREAT CITIES

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What I have to offer consists essentially of the application of some basic frameworks to the topic of this seminar. So far as I know, these frameworks have never before been applied to research on teacher education for the Great Cities. My hope is that the application of well-established points of view in this domain can shed new light. Let us see what happens when the problems of teacher education for the Great Cities are examined in this way.

### A FRAMEWORK FOR RESEARCH ON TEACHER EDUCATION

I regard research on teacher education as a branch of research on teaching. Two other branches are research on teaching methods and research on teachers' personalities. In research on teacher education, the behaviors and characteristics of teachers are dependent variables. In research on teaching methods and in research on teachers' personalities, the behaviors and characteristics of teachers are independent variables.

As dependent variables, teachers' characteristics and behaviors can be considered to depend on the programs of recruitment, selection, and training that we organize to produce the kinds of teachers we want. As independent variables, teachers' behaviors and characteristics enter into studies of how pupils' behaviors and characteristics are determined. The latter kind of study--namely, the study of teacher behaviors and characteristics as independent variables which determine how well pupils learn what we want them to learn--should in principle but not in actuality, of course, be carried out first.

Thus, we can manipulate the courses and the course content that prospective teachers undergo, as independent variables, and we can study the outcome of these teacher education programs in the behaviors and characteristics of prospective teachers, as dependent variables. So, to illustrate quite specifically, we might set "a special course on the problems of teaching in the Great Cities" as one value of an independent variable, the other value being "no such course." In this experiment, the dependent variables would be the kinds of knowledge, understanding, attitudes, and classroom behaviors that might subsequently be exhibited by teachers who had taken such a course. These dependent variables might be measured during, at the end of, or subsequent to the course. The proper design of such an experiment might be a concern of Professor Campbell's remarks on Wednesday. But the content of these independent and dependent variables, their psychological and educational aspects, may be considered to be our present concern in this session of the seminar.

## Dependent Variables in Research on Teacher Education

Let me attempt now to delineate somewhat more specifically the nature of the dependent variables with which we might be concerned in teacher education. That is, what kinds of behaviors and characteristics of the graduates of teacher education programs should we be concerned with? For a framework in which to think about such dependent variables, we can turn to two major concepts of contemporary social psychology, namely, the concepts of role and personality. By role, we mean the behaviors expected of any incumbent of a position in a social organization. Roles constitute fairly standard patterns of behavior and, by definition, do not vary with the peculiar individual characteristics of any particular occupant of a given position.

By personality, on the other hand, we mean exactly the idiosyncratic characteristics--the needs, attitudes, and values of the unique individual. The particular ways of behaving that characterize any single incumbent of position--his temperament, expressive behavior, need-dispositions, and emotional and social adjustment--constitute his personality. These personality variables are considered to explain the variations in hehavior within any particular role.

Thus while role denotes differences in behavior between different positions, personality denotes differences in behavior within the same position. The latter differences are those due to the particular person who happens to be occupying a position.

The roles of teachers take the form of so-called "teaching methods."

By teaching methods, we mean those patterns of teacher behavior that are determined not by the characteristics of the individual teacher but rather by a definition of the behavior for all teachers of a given kind. How teachers using a given method nonetheless vary among themselves in their behaviors is attributed to variations in the teachers' "personalities."

So, in considering the behaviors and characteristics of teachers as dependent variables in research on teacher education, we shall be concerned with "teaching methods," and with teachers' personalities.

Now the question of whether any teaching method is truly an effective one that ought to be adopted by teachers of culturally deprived children is a kind of question that is antecedent to teacher education research. That is, before we adopt a teaching method as an objective of teacher education in the Great Cities, we might well want to conduct research aimed at the question of whether such a method is indeed effective. Such research would constitute research on teaching methods. This is not quite the same as research on teacher education, where the method that we want teachers to use is considered to be settled. In short, many basic questions of research on teacher education must be moved back a step. A personality characteristic might similarly become a dependent variable in research on teacher selection and training for the Great Cities.

But remember that, in setting such a variable before ourselves as a dependent variable, we assume the validity of a statement that it is a desirable characteristic. If we are unwilling to assume such validity, we must engage in research on whether such a personality characteristic, now considered as an independent variable, is indeed correlated with the effectiveness of teachers of culturally deprived children. Do teachers possessing this characteristic get along better, or produce more desirable outcomes, than teachers who do not? Such a question would be answered by research on teacher personality.

In short, I am saying that we should not concern ourselves solely with methods of producing teachers who will use certain teaching methods and possess certain personality characteristics. Unless we are merely going to assume a whole series of answers to questions about desirable teaching methods and personality characteristics, we need also to engage in research on the teaching methods and personality characteristics that produce the most desirable results in the classrooms of our Great Cities.

So much for the relationship between research on teacher education and research on teaching methods and teachers' personality characteristics. The latter kind of research is logically prior to the former. We must not let our concern with teacher education blind us to the basic question of what methods and characteristics can be demonstrated to be desirable.

## Three Basic Research Domains

I want to devote the remainder of my time to a consideration of three basic kinds of research: (1) research on pupils, (2) research on teachers' methods and characteristics, and (3) research on teacher education. First, I shall consider the need for and nature of research on the characteristics of the pupils. I shall then pose an illustrative series of questions and research problems in which the teachers' methods and characteristics are the independent variables in relation to desirable outcomes. Finally, I shall turn to problems of research in the realm of teacher education per se where teachers' behaviors and characteristics are considered as dependent variables, and the independent variables reside in the teacher education program.

## RESEARCH ON PUPILS IN THE GREAT CITIES

So I turn now to research on children with special reference to the problems of teaching in the Great Cities. What is special about teaching in the Great Cities? How does it differ from teaching in general? The answer stems, of course, from the general principle that behaviors and characteristics of teachers depend for their effectiveness on the characteristics of their pupils. And we know that pupils in the Great Cities differ in many significant ways from pupils in general. I shall assume that our primary concern in this seminar is not with all the pupils in the Great Cities, who differ vastly in social class, ethnic, national and religious background. I shall assume rather that we are primarily concerned with the education of pupils who fall into the general category termed "culturally deprived," by which we mean the educationally disadvantaged, lower class children who are often members of racial or cultural minorities. It is these pupils, we assume, who make teaching in the Great Cities something different from teaching in general.

One primary task must therefore be to improve our understanding of the characteristics of culturally deprived children and youth. A great deal of such knowledge is already at hand, and Riessman's book (19) brings together much of it. But we need still more.

Knowledge about pupils can be categorized in various ways, and I shall use six rubrics: intellectual abilities; achievement; attitudes, interests and values; environment and background; emotional and social adjustments; and physical aspects.

Intellectual Abilities

Under the heading of intellectual abilities, we still need better knowledge on the old question of the degree to which the test performances of culturally deprived youth reflect their environmental disadvantages, or the biases built into the tests, or indeed hereditary patterns. Research on social class and intelligence tests, recently summarized by Charters (1963), needs to be further pursued. We need to continue the search for methods of measuring mental abilities that Davis and Eells (5) exemplified in developing their "Games" test, which was intended to yield an index of problem solving ability that was educationally and socially significant while at the same time unbiased against childred from lower class backgrounds. The Davis-Eells test seems not to have succeeded altogether in eliminating such bias and in producing scores that are valid against present-day criteria of school success. But thoughtful students of their work have not yet concluded that the search is altogether forlorn. Reissman (19, p. 60) has suggested that we explore further the value of using the "games" orientation, longer time limits, less academic and bookish problems, methods of scoring that deal with process as well as the accuracy of the final answer, items that do not discriminate between deprived and middle-class groups, pre-training pupils in effective methods of test-taking, as developed by Haggard (13), and training examiners in special methods of establishing rapport with culturally deprived children. These approaches have not yet been exhausted as ways of developing measures of intellectual ability that will yield greater validy for culturally

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deprived children than the group tests of mental ability now used.

Another avenue for research on the intelligence of culturally deprived children is the analysis of mental ability that has been formulated both logically and empirically by Guilford (12) and his co-workers. The best known of Guildord's distinctions is perhaps that between convergent and divergent mental abilities. But we do not know nearly enough as yet about the factorial structure of mental ability in culturally deprived children. Also, so far as I know, regression equations for the prediction of achievement on the basis of batteries of factorized ability tests have not been studied with special attention to culturally deprived children. That is, the particular weights that should be assigned to various kinds of mental ability to maximize the validity of intelligence tests have not yet been developed on the basis of samples of lower class children. Studies along these lines may well yield improved understanding of the cognitive processes of culturally deprived children. We need such understanding in order to raise the validities of ability tests against either present or improved criteria.

## Achievement of Cognitive Objectives

A second category of knowledge about children is their achievement of educational objectives. Such achievement is of course measured by teachers' marks and by pupils' scores on achievement tests. Such achievement is also the criterion against which the validity of mental ability tests is often determined. We need better ways of defining and appraising the achievement of culturally deprived youth. We need to devise ways of helping teachers to eliminate their social class biases from the marks and grades that they assign to their pupils. That such biases exist has been demonstrated by research on teachers' perceptions of their pupils. Studies have shown that teachers often have less favorable attitudes toward lower class children. Pupils with higher socioeconomic position tend to attain higher sociometric status among their peers (Gronlund, 11, p. 281). If "the same factors which contribute to his rejection by peers tend to arouse attitudes of rejection on the part of the teacher" (Gronlund, 11, p. 281), then it is readily inferred that teachers' marks tend to be biased against lower class pupils. Better training of teachers to understand and accept such pupils can reduce this bias in teachers' marks. As for achievement tests and other measures of performance on which pupils are marked, we here enter the whole realm of the curriculum and objectives. Curricula and objectives better attuned to the needs and interests of culturally deprived pupils can also reduce bias in the definition and measurement of educational achievement. And such improved curricula and objectives will result in turn from better understanding of the characteristics and environments of such pupils.

## Attitudes, Interests and Values

A third domain in which we need improved understanding of lower class pupils is their attitudes, interests and values. Riessman offered the proposition that "the underprivileged person is much more oriented to the vocational, in contrast to the academic aspect of education" (19, p. 13). That is, the culturally deprived parent and his children have no interest in knowledge for its own sake or for its value in self-expression, self-realization and the like. They want education to help them in getting jobs, in coping with the cureaucracy around them, and in serving their "great respect for physical science" (19, p. 13). According to Riessman, the lower class student is "least interested in social studies, literature and the arts, as they are now presented in schools" (19, p. 14).

Apart from better knowledge about these attitudes toward education and school subjects, we need much more detailed knowledge concerning the attitudes of culturally deprived children and youth toward different kinds of people, occupations, activities and especially the behaviors and attitudes of teachers. Such knowledge needs to be based on careful surveys of the attitudes and interests of culturally deprived youth, obtained not only with the inventories with which we are familiar but with open-ended techniques employed by skilled interviewers. The conjectures and insights of writers like Riessman need to be deepened by further investigation of the kind that have been made by Hollingshead (14) and Stendler (21).

### Environment and Background

A fourth category of knowledge about children is their environment and background. Here, of course, the studies of child-rearing practices that have been summarized by Bronfenbrenner (2) tell much about the early childhood experiences of culturally deprived youth. But we also need more psychologically oriented studies of the physical environments of children, making use of the kind of psychological ecology developed by Barker and Wright (1) to describe the ways in which physical and social environments determine the kinds of behavioral opportunities that children have. We know about the crowdedness, poor sanitation, extended family structure and so on, of the homes and neighborhoods of culturally deprived children.

But we have not yet fully explored in detail the ways in which these aspects of the environment determine the strengths and limitations of culturally deprived children. Riessman offered some provocative hypotheses concerning the unique meaning of physical punishment as used by the parents of lower class children, the possible implications of parent-child relationships in lower class homes for the significance of psychoanalytic concepts developed with middle class persons, and the significance for sex behavior of crowded living conditions. But much more detailed knowledge based on careful research is needed to replace these conjectures with validated knowledge. Here we could use the methods of Oscar Lewis (16) in studying the culture of poverty in the slums of Mexico City.

## Emotional and Social Adjustment

A fifth category of knowledge about lower class children is their emotional and social adjustment. We already have some studies of the differences between middle and lower class children in their responses to problem checklists. Results of sociometric studies sometimes show children from homes with lower status to receive fewer sociometric choices, but sometimes no such difference appears; according to Gronlund (11, p. 210), the results may reflect "the varying degree of social stratification found in different communities." How such findings vary from one school to another will presumably have much to do with the nature of the school's and the teacher's task.

## Physical Aspects

Finally, the physical aspects of pupils need to be better understood in relation to their social class status. The nutritional status, health problems, and physical strengths and weaknesses of lower class children need to be described in terms relevant to their schooling. Lower class children report more health problems on checklists of their concerns and worries. Athletics plays a different role in the life of the culturally deprived boy than in the life of the suburban, middle-class, son of a college educated professional worker.

Research on these six kinds of characteristics of pupils bears on teacher education because it will determine much of what is found in research on teaching. The teaching methods and teacher characteristics that prove to be effective with culturally deprived children will be determined in large part by these kinds of characteristics of such children: intellectual abilities and achievements, attitudes and interests, emotional and social adjustment, environment and background, and physical characteristics. No thoroughgoing program for research on teacher education can be conceived without making ample provision for theoretically and methodologically sophisticated investigations of these characteristics of pupils.

## RESEARCH ON THE METHODS AND CHARACTERISTICS OF TEACHERS FOR CULTURALLY DEPRIVED CHILDREN

Let me turn now to a second major category of research--research on the methods and personality traits of teachers of culturally deprived children.

### Dimensions of Teaching Method

Along what dimensions can methods of teaching be described? Many such classifications of teaching method have been developed: permissive vs. authoritarian, the project-method vs. the subject-method, teaching by the presentation of explanations vs. teaching by the method of guided discovery. Much of the research considered in Part IV of the Handbook of Research on Teaching (Gage, 7) deals with research on teaching methods for various subject matters and grade levels. And the chapter by Wallen and Travers (22), on analysis and investigation of teaching methods, deals with such research in general. I cannot attempt to do justice today to those treatments. But it is worth noting that those chapters on teaching methods are not concerned with methods of teaching culturally deprived children. Hence, rather than draw in detail upon the Handbook, I shall offer some hypotheses of my own for research on such teaching methods.

As a way of organizing these ideas, I shall use Neal Miller's paradigm (17) of the learning process. As you will recall, Miller conceives of learning to consist of four major components: drive, cue, response, reward. The learner must want something, notice something, do something and get something. If he gets what he wants, he will be more likely to do the same thing the next time he is in a similar situation.

Miller's model can be turned upside down to provide a description of the teaching process. So, we may say that teaching consists of motivating pupils, directing the perceptions of pupils, eliciting responses from pupils and reinforcing these responses, positively or negatively.

## Methods of Motivating Culturally Deprived Children

First, what methods can teachers use most effectively in motivating culturally deprived children? Here, of course, we draw upon knowledge and assumptions concerning the motives, interests, values and aspirations that might be derived from research on the characteristics of pupils, of the kind I have already mentioned. As I have already noted, Riessman (19, Ch. iv) has asserted that culturally deprived children can seldom be motivated by appeals to the value of knowledge for its own sake or the values of education for self-fulfillment and self-expression. Lower class children, according to him, must be motivated by more strictly utilitarian appeals. We must rather appeal to the value of school learning for getting a job and for coping with the demands of everyday life on the street and in the neighborhood.

This conclusion implies that teachers will have much more difficulty with the new mathematics and science curricula, which are intended to be less narrowly functional in everyday life. If Riessman, and our common stereotypes about the interests and values of lower class children, are correct, then intrinsic motivations based on the intellectual power and elegance of school subjects will have less force. Instead, teachers will have to use their ingenuity in showing how reading, arithmetic, geography and spelling will pay off in much more immediate and practical terms.

I am not prepared to say whether such propositions concerning ways to motivate culturally deprived children are supported by research evidence or by the experience of teachers. But it does seem evident that research on this dimension of teaching method ought to be conducted. That is, we need to compare the effectiveness of motivational practices that differ along a dimension ranging from immediate utility at one extreme, to intrinsic intellectuality at the other extreme. As Rivlin (20) has pointed out, much of the recent work on curriculum development has been carried out in laboratory schools attached to universities, where most pupils are faculty children. The new curricula in, say, mathematics and science, seem to have been effective in arousing interest largely by virtue of their intellectual power and elegance. Can they also appeal to lower class children? The ingenuity and artistry of teachers like David Page and Max Beberman may already have been shown to excite the motives of lower class as well as middle class children. I simply do not know the evidence. Superficially, at least, the question seems to be an altogether meaningful one. I know of no way other than research by which to get an answer.

It should be remembered, of course, that for at least a generation we assumed that all elementary and secondary school children needed to have practical and utilitarian appeals built into their mathematics and science curricula. The usefulness of mathematics and science in everyday life was therefore stressed. Arithmetic was focused on the problems of income tax, interest, installment buying and farming. General science dealt with refrigerators, doorbells and electric irons. It was not until the new arithmetic, mathematics, physics and biology curricula came along and worked out well that we began to question our assumptions. We now are less certain about the futility of motivating pupils with appeals to the basic structures of the disciplines of mathematics and science. Our similar assumptions concerning what will appeal to lower class children may also be fallacious.

A second dimension of motivation that needs to be investigated is the social dimension. Middle class children are considered to be relatively individualistic and competitive. Concerned with getting ahead in the world, they are often seen as wanting to work alone for the high grades that will admit them to college. Or they are concerned with their popularity or with their athletic success as individuals. Their less extended family structures are sometimes seen as making middle class children more self-centered, self-sufficient and individualistic. The family life of culturally deprived children, on the other hand, forces them to acquire more concern with sharing, cooperation and group goals. Such speculations raise the question of whether teachers of culturally deprived children can make more effective use of group processes for motivational purposes. Group projects, role playing, games involving teams, incentives for group achievement may therefore all prove to be more effective with such children. Research on the social dimensions of motivation may also therefore prove to be worthwhile.

## Methods of Perception-Directing for Culturally-Deprived Children

Let me turn now to the second component of teaching method, that of directing the perceptions of pupils to significant cues. I am using the term perception here in a broad sense, since I do not intend it to apply merely to the highly physical aspects of visual or auditory perception. Rather, I have in mind the direction of attention, the perception of meaning and means-end relationships, the understanding of cause and effect, and what might almost be called cognition and apperception. How does one get a pupil to see and understand what one wants him to see and understand?

A whole school of theorists of perception has grown up around the notion that motives, needs and values exert directive influences on our perceptions. So poor children have been considered to distort their perceptions of the sizes of coins, for example, more than rich children. The emotional significance of a word has been considered to influence the speed with which it can be recognized. Riessman (19) holds that deprived children "appear to think in spatial terms rather than temporal terms (they often have poor time perspective)" (19, p. 67). He also considers the deprived child's style to be "physical and visual rather than aural" (19, p. 73). He considers them to "have a very different attitude toward abstract concepts. They need to have the abstract constantly and intimately pinned to the immediate, the sensory, the topical. This is not to say that they dislike abstract thinking. It is, rather, that they do it differently" (19, p. 69).

Do these notions about directive states in perception and the relative effectiveness of different perceptual modalities have implications for teaching method? This question has not yet, so far as I know, been subjected to careful research comparing lower class and middle class children. At any rate, these aspects of the perception-directing components of the teaching process seem to be worthy of investigation.

## Response-Elicitation in Teaching Culturally Deprived Children

Now let me turn to the third component of the teaching process, namely that of getting the learner to make responses. Here, teaching can vary from that in which the learner is essentially passive, as in the lecture method, to that in which the learner responds frequently and actively, as in discussion methods and programmed learning. So far as I know, none of the research on this question has compared these methods with lower and middle class children. Much of the current research on programmed learning has been showing that the active responding makes little difference. That is, children have been found to learn about as well when they read the response in the program as when they make it themselves (Krumboltz, 15, p. 537).

Yet, writers like Riessman who refer to the physical or motoric sytle of deprived groups seem to imply that overt responding would be more effective in getting such children to learn. He conjectures that "the new teaching machines are likely to appeal to the deprived child" (19, p. 71). Although he attributes such greater appeal to the game-like quality of teaching machines, it may also be found that such machines are more effective with culturally deprived children when they do involve over responding.

Pupil participation in classroom processes through discussion, group planning and other kinds of activities that involve the movement of muscles large and small may prove to be even more valuable for lower class children than middle class children. Do social class differences in fact exist in these aspects of the learning process and consequently in the kinds of teaching method that should be employed? Here may be another dimension of research on teaching that should be pursued.

## Reinforcement in Teaching Culturally Deprived Children

Finally, after the learner has been motivated, has perceived and has made a response, he needs to be reinforced either positively or negatively. But what kinds of reinforcement work especially well with culturally deprived children? This question is intimately bound up with that of motivation.

Do report card grades and marks mean as much to lower class children? If not, what other kinds of rewards can the teacher dispense? Riessman (19) distinguishes between love and respect and says that the lower class child wants the latter particularly, since "love is not a major issue in the deprived home, is not used as a discipline technique, and the child generally does not feel that he must win love or that he can lose it. Respect, on the other hand, is something that the child is not likely to have received in the culture at large. This lack of respect is closely connected to his feelings of alienation and resentment. Too many people (in society at large) deprecate him and laugh at him. He himself knows that he is ignorant. He needs a teacher who will stand by him, someone on whom he can depend" (19, pp. 46-47).

Just how carefully this distinction between respect and love can be made by teachers needs to be investigated. Observational studies ought to be made to explicate the behaviors of teachers that exemplify one or the other.

Another aspect of reinforcement in the classroom is the teacher's need to gain status in the pupil's eyes. This need is not presumably so great in classrooms containing middle class pupils, where teachers have high status almost automatically. But in lower class schools, it seems likely that the teacher needs to win her spurs anew with every class or else she cannot be an effective dispenser of rewards. It has often been suggested that teachers of lower class children need first to win over the leaders among their pupils. Once the leaders have been won over, the other pupils will fall in line. If so, is it an important part of the reinforcement component of the teacher's work to gain the respect of the most prestigious of her pupils? Research on this kind of question may yield useful knowledge about methods of teaching culturally deprived children.

## Research on Teacher Personality

So much for research on teaching methods for the moment. Let me now turn to the other major category of variables in research on teaching, namely, the teacher's personality, those unique characteristics of temperament, needs and the like, that make one teacher of, say, the fifth grade differ from every other teacher of the fifth grade, even those in the same school using the same methods.

The Handbook of Research on Teaching contains a chapter by Getzels and Jackson (8) on the Teacher's Personality and Characteristics. In this chapter they deal with research on teachers' attitudes; values, interests, favorite activities; adjustment and needs; personality factors; projective techniques; and cognitive abilities. Typically, research on teachers' personality is correlational research: a test or inventory of some kind is administered to teachers and the resulting scores are correlated with some aspect of the teacher's effectiveness or behavior.

By and large, none of the research reviewed by Getzels and Jackson is concerned with whether these correlations are different for teachers of lower class children than for teachers of middle class children. It seems safe to say that the distinction has rarely been made in research on teachers' personalities. Yet, at least one study (Della Piana and Gage, 6) has shown that the validity of a teacher attitude inventory depends on the pupils' values. For pupils who have strong cognitive values, who place great importance on the teacher's ability to get them to know and understand school subjects, the Minnesota Teacher Attitude Inventory had low validity against a criterion of pupils' liking for the teacher; for pupils with strong affective values, wanting a teacher who will make them feel emotionally secure in the classroom, the Minnesota Teacher Attitude Inventory correlated about .6 with the pupils' liking for the teacher. If lower class pupils have stronger affective values concerning teachers, the attitudes measured by the MTAI should be much more significant for teacher effectiveness in winning a favorable response from pupils.

Riessman, in discussing what kind of teacher is most effective with the disadvantaged child, offers the suggestions that such teachers want to teach children rather than subject matter, have some "identification with the underdog" (19, p. 87), have a reformer's zeal, are physical rather than word-ridden in their approach, and are "dedicated." It might be possible to develop methods of measuring these dimensions that Riessman has offered.

But perhaps the approach used in developing the Minnesota Teacher Attitude Inventory ought to be applied specifically to teachers of lower class children. That approach, almost purely empirical, consists of administering large numbers of attitude and opinion statements to two groups of teachers, i.e., to teachers at two extremes of ability to get along with pupils. Then, the items that discriminate significantly between the two groups of teachers are selected. Applied to our concern with teachers of lower class children, the approach would differ from that used with the

MTAI solely in that the extreme groups of teachers would be those who get along with the lower class pupils very well, on the one hand, and those who get along with such pupils very poorly. Relatively good results were obtained with this method in developing the MTAI. We have grounds for optimism that it could yield an inventory of teacher attitudes with fairly good validity against a criterion of ability to get along with culturally deprived children.

The obvious use of such inventories in teacher selection is probably not its major value. In these days of a chronic teacher shortage, especially in the Great Cities, our problem is not so much selection as recruitment and training. The major value of the MTAI and of any such inventory, in my opinion, lies in the understanding that it gives us concerning the kinds of attitudes that are conductive to good teacher-pupil relationships. Such understanding can be used in teacher education perhaps more effectively than in teacher selection.

## Research on Teacher Education

Thus far, I have dealt with the needs and prospects of research on pupil characteristics, teaching methods and teachers' personalities. The fruit of such research would nourish our research on teacher education. It is altogether necessary if we are to improve the basis for the objectives of our teacher education, recruitment, and selection programs. We should learn more about the pupils' characteristics and the kinds of teaching methods and personalities at which teacher education should aim as we go about setting up the relevant dependent variables with which research on teacher education should be concerned.

Now let me turn to the problems of teacher education in themselves. My approaches to this subject have been very much influenced by the reading I have done in preparation for this seminar.

Some of the items I have read are Rivlin's Teachers for the Schools in Our Big Cities (20), the report by Yeshiva University (23) on "Training Programs in Project Beacon for the Preparation of Pre-service and In-service Personnel to Work in Socially Disadvantaged Community Schools..," the replies to Mr. Bertolaet's invitations to many persons to suggest topics for this seminar, the reports of the Research Council of the Great Cities Program for School Improvement on the Teacher Education Project: Progress Report (10) and Follow-up of Selected Practices (9), Riessman's book on The Culturally Deprived Child (19), Conant's Slums and Suburbs (4) and the chapter by Pillard (18) on "Teachers for Urban Schools."

This experience has not left me with a feeling of ignorance about the nature of the many problems of teacher education for the Great Cities. Rather, I came away from this reading with a positive glut of ideas. My problem was more to bring order out of this superabundance of diagnoses and prescriptions. But even more, the problem is to identify what is worthy of research and what it is possible to do research upon.

For many of the proposals have such obvious merit that what they require is not research but rather implementation, as quickly and wisely as the administrators and leaders of our teacher education programs and school systems can possibly bring them about. For I do not see research as desirable or necessary for every action that ought to be taken to solve a problem. Very often, our practical wisdom is sufficient to recommend a course of action as patently to be desired. And the obstacles to such action cannot always be surmounted through research. The obstacles are often political in character. People need to be persuaded, votes need to be garnered, lethargy needs to be overcome, or in short practical wisdom needs to be acted upon. For example, it does not take research to appreciate the value for easing teacher shortage problems in the Great Cities of increased salaries for teachers in disadvantaged neighborhoods, of hiring more teachers so as to make smaller classes possible, of eliminating examination requirements and other red tape as obstacles to improving the competitive position of the Great Cities in employing new teachers, of improving cooperative arrangements between school districts and colleges for teacher education, of getting the mass media to present a better rounded and presumably more favorable image of what teaching in the Great Cities entails so as to counteract the blackboard jungle stereotype, of perhaps establishing special types of certificates for teachers of culturally deprived children just as we now have such certificates for teachers of exceptional children.

The literature I have read contains many more suggestions of this kind. Most such proposals do not recommend themselves for research not only because of their obvious desirability. They also often lack researchability in the sense that the variables involved are often too gross and complex to yield interpretable results. For example, such a set of proposals for reshaping teacher education as that of Project Beacon at Yeshiva University (23) seems to suffer from overcomplexity as a research variable. We might well find that students trained under Project Beacon turned out to be better teachers of culturally deprived children. They might last longer on the job, they might get along better with their pupils, they might teach their pupils more, and their pupils might be happier and better citizens. But we would never know from studying Project Beacon as an experimental treatment just what it was that brought about these good results. Too much will have gone into such a treatment for us to know just what parts of it did the trick. To yield meaningful results, we need to break up massive complex treatments into their various components and then study the effects of these as independently as possible of the others. Multivariate experimental designs may be conceivable, but the difficulties of executing them within the realities of administering a teacher education program seem enormous.

So some of the ideas for improving the recruitment and education of teachers do not seem to need research, while others do not seem to be researchable. What then can research contribute to the improvement of teacher education programs for the Great Cities, beyond the kind of research on pupil characteristics, teaching methods and teachers' personalities that I have already sketched? One answer is the survey approach, by which I mean questionnaire and interview surveys of the opinions of persons centrally involved in the problems. The kind of survey of opinion already carried out by Mr. Bertolaet, with the administrators of school systems and teacher education programs as his respondents, serves as one example. This survey yielded the census of ideas which it seems to me has moved us a good notch ahead toward better understanding of the problem. Similar surveys ought to be made of the opinions, beliefs and attitudes of students in teacher education programs concerning teaching in culturally deprived areas. The faculties of teacher education institutions, teachers in the Great Cities and also in the suburbs, pupils and their parents in the Great Cities, ought to be sampled. The many insights and suggestions that have already been garnered from school district and college administrators ought not to be relied upon as the sole source. The value of that survey should make us optimistic about what could be learned from the additional kinds of surveys I have mentioned.

As to the methodology of such investigations, let it suffice to say that it exists and is ready to be used. We know enough about sampling, questionnaire construction, interviewing methods, structured and unstructured techniques, ways of probing beneath superficiality and methods of analyzing data to have every confidence that the job can be done in ways that will almost inevitably yield fresh penetrations into the whole domain of our concern. Old problems will be seen in new ways, new problems will be identified and surely proposals for their solution will come forth. In short, the survey approach offers a mechanism for bringing the minds of more of the persons involved in these problems to bear upon them.

But the survey approach, in all its many forms--using questionnaires, tests, records, rating scales, anecdotal records and diaries, catalogs and the like--has the basic limitation that things are left the way they are and the knowledge is gained only about the status quo. And we are interested not only in knowing more about the way things are but in doing something to change them. Here of course we become involved with experiments, in which a variable is manipulated and other variables are studied in relation to them. Such investigations must be contrasted with correlational studies, in which the variables are merely measured rather than manipulated. Can we conceive of experiments within the field of teacher education for the Great Cities--experiments that are both feasible and potentially significant? Experiments can of course range considerably along a scale of rigor from true experiments where alternative treatments are assigned at random to experimental and control groups to what Campbell calls quasi-experiments, which lack complete rigor but nonetheless can tell us much about the effects of various treatments or experimental manipulations. I shall, of course, leave the question of experimental design in research on teacher education for discussion by Professor Campbell later this week. Our present concern should rather be with the kinds of variable that might enter into fruitful experimentation. And the most important and intriguing problem in conceiving of such experiments is the identification or formulation of the experimental or independent variable, or experiment, whose effects are to be determined. Let me attempt now to discuss such experimental variables or treatments.

It is possible to describe such experimental variables in two ways, which I shall call with some hesitation, phenotypic and conceptual. By phenotypic, I mean describing such variables in terms of the ordinary terminology of practice and administration. For example, Rivlin has offered a wealth of suggestions concerning a many-faceted program containing such proposals as using laboratory schools for urban teacher education, pointing teacher education toward urban teaching and devising new patterns of teacher education for urban schools. Under the heading of pointing teacher education toward urban teaching, Rivlin(20) described an experiment in which students "were asked to volunteer to be assigned to a most difficult school as student teachers. The students were assured that the college would provide additional student teaching supervision, that those who passed the regular board of education examinations and who so wished would be appointed to this school and that the college would continue to help them after they had been appointed as teachers. The college also provided a special community orientation program which helped the teachers to understand the children and their families" (20, p. 7). Rivlin stated that "these prospective teachers responded so well to this approach that not only did they become successful and enthusiastic teachers in a school which had always had difficulty in attracting qualified faculty members, but they became such effective recruiters for that school that the colleges were able to expand the program to include several other schools of the same sort" (20, p.7).

Rivlin did not--and presumably did consider it appropriate to--take the space to describe in detail just what this experimental variable consisted of. I cite it here only to illustrate the phenotypic description of an experimental treatment.

If it were to have what I am calling a "conceptual description," we would have a description in such terms perhaps, as the initial sources of anxiety of the student teachers, the ways in which the treatment allayed these fears, the kinds of relationships that the supervisors had with these student teachers, the kinds of understanding of their pupils that the students acquired, the changes in the student teachers along such dimensions as authoritarianism and openmindedness, the kinds of perceptions, behaviors and reinforcements that entered into their experience and the kinds of transfer of training that occurred from the student teaching experience to subsequent performance. The treatment ought to be described in some such terms as these in order for its psychological and educational significance to be understood. And the dependent variable ought to be not merely the teacher's enthusiasm and persistence on the job but also some evidence concerning the sources of these phenomena in reduced anxiety, feelings of confidence and achievement, ways of relating to their pupils and feelings of satisfaction.

It would be possible to analyze many of the other insightful and promising experiments and quasi-experiments that previous discussions have suggested. Team teaching as a pattern for teacher education, preparing liberal arts college graduates for urban teaching, making optimal use of new instructional media, and fostering greater cooperation between schools and universities are all suggestions that contain within them a host of conceptually significant independent and dependent variables. Many of these can be analyzed in ways that not only will draw upon but will also contribute to psychological and educational theory. In doing so, we would also be refining the ways in which such treatments could enter into feasible and significant experiments in teacher education. I am saying that more intensive scrutiny of the many proposals that have already been made, in terms of the concepts and principles of educational and social psychology, will sharpen these suggestions and make them more amenable to fruitful research. Another example is the phenotypic proposition that "the best way of becoming familiar with the situation is actually to work in it." This hypothesis underlies many of the proposals that have been made for the improvement of teacher education for the Great Cities. But we need to analyze this proposition in terms of what we know about learning, transfer, social perception and the reduction of anxiety. Such analysis of phenotypic propositions in conceptual terms ought at least to be given a good try. Experiments in teacher education for the Great Cities may then feed knowledge back into educational and social psychology as well as draw upon it. And the eventual outcome would be a sounder basis for the solution of our pressing problems in the recruitment, selection, education, placement and supervision of teachers for the Great Cities.

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Schools should be studied in a broad context. Pupils and their environmental contexts are appropriate subjects for research that is conceived, planned and conducted by faculty members from colleges and universities and personnel in elementary and secondary schools. The trial and error approach to problems in the field of education must be supplanted by research. Professor Campbell, a distinguished social scientist, describes the schools as experimental laboratories and suggests promising research approaches. Is it feasible to undertake experimental research in elementary and secondary schools? What use can and should be made of nonreactive measures and institutional records? What are some specific research designs that are appropriate for experimentation in schools? Professor Campbell deals with these and other questions in his paper which follows:

# ADMINISTRATIVE EXPERIMENTATION, INSTITUTIONAL RECORDS AND NONREACTIVE MEASURES[1]

Donald T. Campbell
Professor of Psychology
Northwestern University

This talk will first develop the several themes in the title, and then illustrate possibilities and problems through the discussion of several specific designs.

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[1] This talk is a continuation of and presumes familiarity with the general orientation which Stanley and I presented in our chapter in Gage's Handbook of Research on Teaching (Campbell & Stanley, 1963). My work along this line is being supported by the U. S. Office of Education, Media Research Branch, Project C-998, Contract 3-20-001 under provisions of Title VII of the National Defense Education Act. In the oral presentation of the talk, discussion and presentation were deliberately mixed, and this format has been preserved here in edited form. Since the names of many discussants were lost, all have been eliminated here except where their particular projects are being discussed.

## Administrative Experimentation

Social scientists and educators often end up in the role of passive journalists, recorders of what is going on. This role is quite different from the scientist in the successful sciences, who never tries to describe all aspects of a real situation, but rather experimentally intrudes in a setting where effects can be noted. In undertaking the goal of exhaustive description the social scientist and the educational researcher have taken quite a different role from the role of the successful scientist whose basic approach is to intrude, interrupt, to make a change and to see what happens. We recognize, of course, that experimentation on important issues like how to wean children, how to punish children, etc. is not easily going to be allowed. There are many obstacles to such experimentation. Nor do we often get the opportunity of experimenting with our theories of social structure, organizational effectiveness and the like. Nonetheless, there is excellent reason to believe that unless we, as social scientists, do get into experimenting we are never going to have a science. We are, of course, trying "laboratory" experiments. But when we do such experiments we experiment with those people over whom we have arbitrary power; mainly the undergraduates in our own classes. The kinds of experiments we do are limited by the power we have; namely, ability to hold them captive for one or two hours at the most. Thus our experimental base is of necessity trivial.

A social science that is to deal with important problems must tie-in with people who are doing experimentation at more important levels, who have arbitrary power over more sustained interactions, over larger groups of persons and a wider range of settings. Who is it that has this power? It is you, the administrators. It is the people who are in charge of factories, in charge of training programs, who are in charge of school systems, people whose decisions (whether democratically or arbitrarily arrived at) are put into effect, people who are the gatekeepers (democratically or dictatorially) for abrupt rather than gradual changes. Thus, if we are to have an experimental social science, the social scientist must develop a liaison with the people who have the power. It is not we, but you who have the experimental laboratories, through being at the site, if not in the decision making seat, when abrupt administrative policy changes are made. What we social scientists can do in situations like today is to convince you of the necessity of keeping books on the experiments you make, and organizing your record systems and your publication practices so that you let us know what you tried and how it came out.

The other evening, Dr. Gage and others, including myself, advised you not to postpone taking action until you have done a "survey," not to wait on reforms until the problem had been "researched." When we gave that advice, which I do not want to renege on, we had in mind that type of delegated research in which an outside group of consultants is hired, in which passive descriptive activity goes on, ending up three or four years later with three or four inches of mimeographed reports which nobody has time to read. What I would like to emphasize instead is the need for experimental research in which you go ahead, make changes, use your own best wisdom as to what needs to be done. Do it, but do it in a way in which you learn whether or not you have made a difference. Do it in such a manner that you can both share the results with other practitioners and at the same time improve the sad state of the social sciences by giving us experimental results to feed upon. This is not research as a prerequisite to action but research in measuring the effects of action, research as a bookkeeping on the consequents. This sounds like a number of other slogans we had in the past, such as "action research." I don't want to disown such heritage, although the slogan "field experimentation" may suit better. "Action research" often seemed something advocated by reformers only, and I want research by administrators of all kinds whether they call themselves reformers or not. In actual practice too, the action research movement was usually not accompanied by good enough bookkeeping to ever tell whether or not a difference had been made. But action is the important thing. When we look into the successful sciences we see that action is the principal means of learning. The model of passive descriptive knowing just doesn't hold up when you examine the successful sciences, physics, biology and the like.

## Nonreactive Measures and Institutional Records

This has to do with what philosophers call the "scandal of induction," e.g., the fact that you can't prove that the sun will rise tomorrow, and more generally that scientific knowledge cannot be deductively proven. Scientific "knowledge" is instead a logically unjustified extrapolation from previous experience into the future. Hume lived a long time ago but we are still very slow in recognizing his truism in our general thought. The writings of such modern philosophers as Karl Popper (1959) are helping.

In making these brave extrapolations we make certain assumptions about the general nature of the world. The earlier statement of these assumptions, as in John Stuart Mill, was that we assume that nature is orderly. In the more modern version of this assumption, which seems to be more descriptive of our activities as scientists, we don't necessarily assume that the world is uniform but we assume that it is "sticky," i.e., that adjacent parts of the world in time or space are more apt to follow the same laws than are nonadjacent ones. We now recognize that at any given moment the laws of science are imperfect simplifications but their imperfection is greater the farther we extrapolate them. The greater the difference between the area in which a scientific law was developed and the area in which we are trying to apply it, the less confidently we can extrapolate and generalize. The extrapolation is never logically certain but it is more plausible the greater the similarity of conditions, the less distance in time, space and similarity.

This has implications for us when we as educators working in real city schools try to extrapolate the experiments in the college laboratory. If, for example, we have laws of group formation and ego involvement which are based upon one hour of face-to-face interaction among college sophomores meeting a laboratory requirement, and are trying to generalize from these to laws of group formation and ego involvement in a forty-hour week, month after month, we can see that our conditions of similarity are relative low, that the extrapolation is relatively distant and that the plausibility of extrapolating is tenuous. This implies that even though one borrows from the experimental social sciences and their one-hour college sophomore experiments, one has to cross-validate these principles in one's own arena. If in borrowing one needs to cross-validate with administrative experiments anyway, why don't we just start experimenting where we live? If we are doing experiments with samples of an administrative principle, we are thus providing a basis of experimentation that is close to home, where the extrapolation is small, and where the likelihood of valid extrapolation is great.

One of the features which makes an applied living situation much different from a laboratory experiment is something generally recognized under the name of "artificiality." Such artificiality exists when one gives college sophomores an hour of soul searching questionnaires introducing lots of issues that they have never thought of before and gives them an hour of experimental interaction, and then another one of these questionnaires. In doing research in the school system, typical Ph.D. candidates may come in with enough measuring instruments to bore any student or teacher, possibly with unusual types of questions, and with a clear interruption of the routine. Such measurement procedures create a situation which is very different from the situation which we are trying to generalize to. For an example away from our immediate questions, suppose we are trying to estimate the effect of a movie such as "Gentlemen's Agreement" (an antiprejudice movie) for people who see it under normal theater conditions. Suppose we precede this movie with a 100-

item soul-searcher on antisemitism. An audience with that kind of priming is quite different from the audience we are trying to generalize to. It has been so "warmed up" that it could not possibly see that movie, as some women have, without recognizing its social problem characteristics. But some natural audiences have been so preoccupied with the love story of this beautiful girl and her quixotic boyfriend that they didn't notice that one of the dimensions of the boy's quixotic behavior included registering at hotels under Jewish names, etc. Thus, one of the dimensions in which a so-called experimental research may differ from the settings we would like to generalize to is through the use of "reactive measurement devices" (e.g., Campbell & Stanley, 1963, pp. 179, 188). Measurement devices which are strange, alerting or make people feel like they are being guinea pigs, instruments which start thought processes and problem solving activities, are all apt to be reactive, i.e., instruments which cause change as well as measuring change.

Many kinds of measuring devices may be regarded as reactive in this sense. We can take a journalist as a measuring device. If we introduced into this very conference a man who has a big badge saying "Press" on it, it would probably alter this discussion. Such a newspaper reporter is a reactive measurement device in that he changes what he intended to measure. A simple thing like scales that measure a woman's weight can be a reactive device. Consider an experiment on weight in which everybody has to weigh in at the doctor's office every morning. This in itself would cause some to reduce no matter what kind of pills were being given them; the scales would be a source of change.

Thus one of the things we should try to do in experimentation for applied purposes is to use measures which are as little intrusive as possible. Measures could be reactive in some situations which are not reactive in others. If I were to use a vocabulary test in an experiment in the effects of television for the general population, this vocabulary test for the average adult would be reactive, in that it might initiate new efforts at learning vocabulary. It would be better in this setting to, unbeknownst, take a thousand word sample of a conversation to be later scored on vocabularly level. But a vocabulary test in the school system is not a reactive measure because these students have become so used to being continually given tests; testing is a part of the regular bureaucracy. Thus, one of the ways of being alert to the possibility of nonreactive measures is to look at those things that we are already keeping book on, those institutional records which are already a part of the natural situation into which we wish to generalize. Such is the second theme of the title, an emphasis on using measures of effect which are archival or are part of the institution we want to generalize to.

## An Ideology of Continuous, Contagious Institutional Experimentation

As a final introductory point before we get into specific design problems, I would like to discuss the strategy for getting research done and an ideology of institutional experimentation. If we can be alert to the experimental opportunities that are occurring every day, if we can anticipate those ways of putting administrative decisions into effect that will enable us to evaluate our results, we can establish experimentation as something that is a regular part of our institutional bookkeeping, something to be done continually and repeatedly, rather than waiting around for the big one-shot research grant. The use of institutional records will cut our research costs greatly. This kind of research reality testing can be made a part of our regular budget, so that we don't wait for the big projects as for an outside *deus ex machina* that will come and save everything. In passing it can be noted that big experiments very often have small outcomes. There is perhaps something wrong or wasteful in the strategy of big experiments. If we look again at the successful sciences, we find that their truths are buttressed by hundreds or thousands of replications. Every important experiment becomes built into the measuring instruments of the next level of science, so that the major phenomena are replicated again and again in every laboratory. In the social sciences and in education, we have the notion that one experiment will do it and we invest large sums in single big experiments, which after all only test one thing, in one setting, once.

What we need instead of few big experiments is a contagion of imitative experimentation in which everybody is trying something continually. If anybody hits on anything hot, then this is **cross-validated** by being imitated by many other people who continue to keep records on it to see whether it really does work. Now, in my field, many hot results turn out to be false positives. (We use the five per cent level of significance and thus of every 20 experiments we do at least one looks interesting, but this would happen even if all we were dealing with were pure chance.) The experimental procedure, the bookkeeping, the reality testing, needs to be continued by those who borrow a hot idea as well as those who innovate it. We need to continue this bookkeeping and it is in the cumulative and public record of such experiments that a viable science or applied science can grow.

In a similar way, I don't think that school systems should wait around for a Ph.D. candidate to work on its problems. Ph.D. candidates are even less dependable than large grants, because they usually have to get their job done in a year. As a matter of fact, a six months span of observation is long, and dissertations tend to be one-shot affairs with the man who did the research hired some five-thousand miles away by the time any real effects might be expected.

This ideology of experimentation can be effective within large systems only if we allow heterogeneity within the system, so that each district, or each school, or each classroom can be trying something different, generating something like a free enterprise system in explorations of novel approaches. With the kind of bookkeeping I am going to talk about, with continuous reality testing followed by contagious imitation provides the cross-validation. It is an essential part of the physical sciences in which bandwagon effects of problem popularity either confirm or erase every promising lead. The bandwagon is a part of the scientific process because it provides the strong cross-validation. It is not to be confused with the bandwagon fads in education in which everyone starts applying something with the blind faith that it has been proven elsewhere. Here you are no longer doing reality testing, you have no longer any chance to learn whether the practice is indeed effective.

The cost of such an experimental ideology is the administrative complexity which comes from nonuniformity (which can seem to be a lack of discipline), and the feeling that if students are being treated differently, some of them are getting a less effective mode of teaching than others. These are primarily seen as costs because one has an exaggerated faith in his best policy. A little experimentation would usually show that this faith is exaggerated, that there is no mode of education being used that is so superior that it makes much difference that some students have a variant which someone guesses to be better. In addition, the higher teacher morale which comes from disrupting habituated teachers, and the implicit or explicit competition for excellence which reality-testing brings are gains over-and-above the trial-and-error discovery of better methods.

Intermediate Discussion

We have concluded the presentation of the general strategy advocated. The remainder of the talk will be devoted to concrete illustrations and the experimental design problems and opportunities which they present. But before we go into that, let us break for discussion of the issues raised so far.

Question: You suggest that we use our present records as data for what is going on. This sort of gives us a serendipity of records which we haven't even thought about or looked at for this purpose. I am rather intrigued with this idea.

Comment: This is the major emphasis, although we may want to suggest a few more records to be made institutional just for this purpose. Thus we might want to suggest an annual morale ballot for every student, and an annual progress report from every teacher.

Question: You wouldn't suggest expanding our records to keep data which we don't see any use for?

Comment: No, but if we have the orientation that we are continually going to be evaluating every administrative change we put in, every time we shift books, every time we introduce a teaching machine, every time we send a teacher to a special summer school in-service training, in the end we will seek out the kind of records that are optimal as long as the costs don't get overwhelming. What I am arguing against is introducing different new and unrepresentative measures for each specific experiment. Before we do this let's examine the relevant records that are already available case by case.

Question: You aren't talking about "anecdotal" records. You are talking about more specific and regular measures.

Comment: The type of records I had in mind were things like grades, examination scores, absences, dropout rates, disciplinary infractions, nurses notes, whatever you have, or could have without having to go to the Ford Foundation for a million dollars.

Question: Extrapolation in the area of social change depends on similarity. Then the question can be asked about relative differences or similarities within the bookkeeping system. This is one problem that I see. While you are right in that there are vast similarities between the school system of Chicago and New York, etc., within certain limits, for example, issues related to segregation and economic deprivation, they may in fact be quite distant and this may cause some problem in extrapolation.

Comment: God hasn't given us a promise in advance that science is possible. We have to discover the extent to which it is. I would like to make two responses to the question. First, it is easier to extrapolate from a 40-hour week experiment in a school system in Chicago to a corresponding neighborhood in New York, than it is from my small group research with Northwestern sophomores talking to each other for an hour. Second, with contagious multiple experimentation, what we are going to do is experiment in extrapolation, we will explore our extrapolation ability. For example, Professor Gage suggested that the kinds of teachers that have high morale classes might differ as a function of social class. We certainly will often find "interaction effects" or qualifier relationships, but we will find these by your experimenting in your school system. It will probably turn out that we can extrapolate more confidently where the situation is most comparable. Under the administrative research strategy we would have a pool of research findings in which one could search out the most comparable findings. If the ideology really took hold we would need a journal which would publish research and replication research no matter how the results came out. This would provide us with a realistic sample of our collective experience rather than the misleading rosy-glow of selective presentation of occasional happy outcomes.

Question: One more comment, if you are interested in the question of being able to extrapolate, you are probably also suggesting that in the process of looking at extrapolations ways might be discovered of lawfully taking into account certain factors which prevent simple extrapolation.

Comment: We hope that there are laws to be learned. We hope that there are dependable generalizations to be learned. We cannot tell without trying and we cannot wait until such generalizations are developed in the laboratories of experimental sociology, we have to develop them in our own field.

Question: When one replicates an experiment and it doesn't work a second time, one begins to think that the basic hypothesis is wrong. May it not be that a more fruitful avenue of research is to see wherein the situations were different in systematic ways?

Comment: This is the correct strategy providing it does not degenerate into one-shot apologies for an inadequate law. One should take the hypothesized source of dissimilarity and get someone else to try it out, so that you cross-validate the guess. Both in the laboratory and in field research we have the misleading notion of once-and-for-all experimentation. What we need is the model of cumulative, iterative, trial-and-error processes in which we make each application a real trial and error because in each situation we really evaluate. The publication bias is tremendous on reports of experiments. Only the "encouraging" outcomes tend to be published. Most educational experiments are reported at the crest of the wave before the results actually come in, and the ones that get reported are the ones that sound exciting. We need instead record-keeping such that we take a given "cure" and can get a realistic notion of how it has worked in practice in terms of hundreds of trials.

Question: One problem that bothers me is that most of the records deal with counting strikingly tangible objects, and usually these are the things that are the least important.

Comment: This may be a reason for putting in new measures, such as an annual student morale ballot in which we ask each student to report on where he thinks he's going in life, what kind of a job he thinks he is going to have, whether or not he is going to college, whether he thinks life is getting better for the average man. We need records like this, but records so regular that they aren't seen as introduced just because of a conspicuous new experiment. The issue of validity runs right across the board, and is just as much of a problem in the kinds of measures used in laboratory experiments. Questionnaires, interviews, etc., have the problem of validity just as do attendance records. There are no intrinsically valid measures for anything. We only know indirectly. This indirectness can be found in the kinds of coincidences that are exploited in the visual system (Campbell, 1959). Analysis of any physicist's instrument, such as the cloud chamber, shows the measure to be indirect. The cloud chamber shows some residual products of the beta partical that went past--it doesn't show the beta partical. All measurement is by symptoms. We want to get as many triangulating symptom sources as possible (e.g., Campbell & Fiske, 1959; Campbell, 1960) but for today I would like to emphasize the symptoms that are already available but are not being used. Many times these symptoms are usable even if they have a constant bias and many times it is better to live with a biased symptom than to change the bookkeeping. For example, we have a local problem in Chicago--has Orlando Wilson had an effect on crime rates? Wilson has covered his trail so effectively that we'll never know, because when he came and instituted his reforms he changed the bookkeeping simultaneously, so we have no records that are comparable. Many times it is better to live with a stably biased measurement procedure than to shift to a better one if the shift would be simultaneous with an administrative change you would like to evaluate.

In some sense we will only learn about the validity of these measures through using them in experimentation. Let us take two situations for using the morale ballot. One, we pick 20 students out of the school and say "You are going to be our pilot project." We set them up in a different classroom with a new teacher brought in for the purpose and we give them a morale ballot every week. Compare that with a situation in which every student has filled out a one-page morale ballot every year for a number of years. They are used to it and nobody in the room feels that he is a part of a pilot project; they don't even know that experimenting is going on. Then we might start to measure the effects of in-service group dynamics training given to certain teachers.

I would not make a special case for uniform bookkeeping between school systems. I think I would argue that comparisons between Chicago and San Francisco differ on so many dimensions that it is not an interpretable comparison. I am talking about experimentation within a school system in which you use your records to compare an experimental and control group, or now and then, within one's own system. If you do have a mode of teaching that makes students attend better, it will show up on several ways of scoring attendance. The emphasis is on comparisons with a system but this cannot be made unless you have some kind of bookkeeping that you keep comparable from year to year.

Question: Haven't you been unduly hard on big projects? Isn't one of the problems in education the small amount of research money that has been invested. Don't too many educators draw too much confidence from isolated small studies?

Comment: I am not against big projects. We all favor action and big projects often make action possible. What I am against is this notion that we cannot experiment without big projects. I think each teacher in his classroom can experiment (if he reads the chapter by Campbell and Stanley, 1963, where statistics and design are carefully segregated). For example, he can experiment in changing his teaching method for parallel lists of vocabulary words. There is no need to wait for a big project to do experimentation and perhaps we ought to save the big projects for principles that look really hot as a result of the trial and error of small experimentation. We will come upon some things that seem eminently worth doing, and that can't be done without outside support. But let's not say that experimentation is for the future day when we have big money, or that it is only for that other person who, because he is teaching teachers, must be an expert in research. You in the field know more about the problems, more about the probably efficacious treatments, and should be the persons better able to do the reality testing.

## ANALYSIS OF SPECIFIC DESIGNS

In the following sections we will discuss several specific designs involving action programs representative of the problems of this conference. These will include the Rivlin plan for team teaching, Haubrich's problem of the effect of poverty, the Buffalo experiment in revitalizing a low-morale teaching staff, Mrs. Carlson's question as to the difficult-easy vs. easy-difficult order for intern experience and the Northwestern Tutoring Project. The discussion can proceed more effectively if I first put before you the entire check-off list of threats to the validity of experiments (Campbell, 1957; Campbell & Stanley, 1963), some of which, such as reactive measures and reactive arrangements, we have already touched upon.

## Check-List of Threats to Internal and External Validity

Fundamental to this listing is a distinction between internal validity and external validity. Internal validity is the basic minimum without which any experiment is uninterpretable: Did in fact the experimental treatments make a difference in this specific experimental in--stance? External validity asks the question of generalizability: To what populations, settings, treatment variables, and measurement variables can this effect be generalized? Both types of criteria are obviously important, even though they are frequently at odds, in that features increasing one may jeopardize the other. While internal validity is the sine qua non, the while the question of external validity, like the question of inductive inference, is never completely answerable, the selection of designs strong in both types of validity is obviously our ideal.

Relevant to internal validity, there are eight different classes of extraneous variables which, if not controlled in the experimental design, might produce effects confounded with the effect of the experimental stimulus.

These are:

1. History: the other specific events occurring between the first and second measurement in addition to the experimental variable.

2. Maturation: processes within the respondents operating as a function of the passage of time per se (not specific to the particular events), including growing older, growing hungrier, growing tireder and the like.

3. Testing: the effects of taking a test upon the scores of a second testing.

4. Instrumentation: in which changes in the calibration of a measuring instrument or changes in the observers or scorers used may produce changes in the obtained measurements.

5. Statistical regression: operating where groups have been selected on the basis of their extreme scores.

6. Selection: biases resulting in differential recruitment of respondents for the comparison groups.

7. Experimental mortality: the differential loss of respondents from the comparison groups.

8. Selection-maturation interaction, etc.: in certain of the multiple-group quasi-experimental designs, such as the nonequivalent control group design, such interaction is confounded with, i.e., might be mistaken for, the effect of the experimental variable.

The factors jeopardizing external validity or representativeness are:

9. The reactive or interaction effect of testing, in which, as we've already discussed, a pretest might increase or decrease the respondent's sensitivity or responsiveness to the experimental variable and thus make the results obtained for a pretested population unrepresentative of the effects of the experimental variable for the unpretested universe from which the experimental respondents were selected.

10. Interaction effects between selection bias and the experimental variable.

11. Reactive effects of experimental arrangements, which would preclude generalization about the effect of the experimental variable for persons being exposed to it in nonexperimental settings.

12. Multiple-treatment interference, a problem wherever multiple treatments are applied to the same respondents, and a particular problem for one-group designs involving equivalent time-samples or equivalent materials samples.

## The Rivlin Team-Teaching Proposal

As the first of our concrete experiments for discussion, let's take one described by Dean Harry H. Rivlin in his paper "Teachers for the Schools in our Big Cities" (Mimeo, October 1962) as distributed to the members of this conference. On pages 14-16 he proposes a plan for using team teaching and related devices to prepare and recruit prospective teachers for challenging urban areas. Briefly, the experimental treatment would be to introduce in a teachers college in a metropolitan area a program of school and community service in lieu of some on-campus courses. The program would start at the sophomore level. Students would be paid as for a part-time job. In the senior year the commitment would be three hours per day as an assistant teacher. Subsequently they would be full time interns.

Let us suppose that we are interested in the effect of this program on the percentages of graduating teachers choosing to teach in the difficult urban areas. Let us first consider the most usual, but least interpretable, condition under which the program would be introduced as an across-the-board change (rather than staged so that contemporaneous experimental and control group comparisons were possible). If the first class to graduate under these conditions is 1966, we might find that 9 per cent choose the problem schools, whereas in the class of 1965, only 2 per cent made such choices. Such an outcome would be very encouraging, yet as an experimental design it leaves many threats to validity uncontrolled. For example, it is possible that the exceptional figure is not the 1966 9 per cent but rather the 1965 2 per cent. (Professor Lawrence Ross and I are analyzing the effect of Governor Ribicoff's crackdown on speeding in Connecticut. It turns out that the most exceptional year for auto deaths is not the good year following the crackdown, but rather the exceptionally bad year preceding.) We gain a great deal from having an extended time series, for example, if the years 1960-66 were to have run in the fashion 2, 3, 2, 2, 1, 2, 9, we would have little reluctance to infer a genuine shift, while if the series had run 8, 3, 5, 9, 4, 2, 9, the same jump from 2 before to 9 after the change would have seemed meaningless.

Consider the measure of volunteering. If we had never asked people to volunteer for such schools before the experimental year, then we couldn't do time series. This should be kept in mind in planning. When we start this Rivlin experiment, it is going to take about a year's preparation before the first group of sophomores begin. This plus the years before the first class graduates gives us some four possible years of pre-experimental data for the time series. In the initial planning year, we want to look at what kind of records are available. We might just for ease of bookkeeping, look at our forms whereby we solicit teachers from the graduating class and see if these can be modified to be more useful for our purposes.

Assuming we get an impressive successful time series such as the 2, 3, 2, 2, 1, 2, 9, how valid is this as an experiment? There are a number of the threats to validity left uncontrolled. But the strategy recommended is not to throw up one's hands in rejection of the invalid, uninterpretable data, but rather to examine the uncontrolled variables one by one to see how plausible they are in this specific instance. Where a plausible rival hypothesis exists, one then tries to make other data analyses that might rule out this rival hypothesis. Looking at the check list, we note that "history" is uncontrolled. That is, some other simultaneous change, not a part of our program, might have caused the effect. How plausible is this in this case? If we learn that the school board, beginning in the year 1965-66 advertised a $1,000 per year hardship bonus for such schools this might seem a plausible rival. We might learn of other plausible rival hypotheses by asking the volunteers why they made the choice they did. (This might be incorporated in the basic recruitment form used in all of the years.)

Maturation and testing do not seem plausible rival hypotheses, in that each year's data are from a separate set of student teachers. An instrumentation bias might occur if our mode of recording changed: if for example, older data were based on those actually placed in such jobs, and our 1966 data were based on all those who asked to be considered for the jobs. Selection is an uncontrolled threat to validity if it turns out that independently of this experiment, the teacher's college started getting a very different type of entrant in the entering class graduating in 1966. High school records for the series of classes could be examined to check this. Not all differential selection and differential drop-out effects would be invalidating, however. It might turn out that the team-teaching and service apprenticeship attracted a group of students who previously had not gone into, or not stayed in, teacher training. Such an effect would be valuable, even though one would want to do analyses to separate it from the effect of changing attitudes in a relatively unchanging talent pool.

The design we have been considering is the "Interrupted Time Series" (Campbell & Stanley, 1963). One would probably want to strengthen it by looking at a similar time series of recruitment data from some other teacher-training institution sending student teachers into the same schools, but not introducing this innovation this particular year. This would produce the Multiple Time-Series Design. Even if the other institution had a quite different base rate for supplying teachers, if it failed to show the 1965-66 jump this would help rule out explanation in terms of general shifts in the teacher employment market, etc. In a still more elaborate experiment, one might divide that first sophomore class into an experimental group, offered these opportunities, and a control group excluded from them. If the apprenticeship billets were in genuine short supply, one might consider allocating them by lottery, optimal for both democratic and design purposes. However, differential treatment often creates great administrative costs as well as "reactive arrangements" in which experimental or control groups may resent their deprivation or arduous duties. Such considerations might make one settle for the quasi-experimental time series. But, if the positions are in short supply, it would be criminal to fill them on the sole basis of eagerness or special privilege: better than twice the number of volunteers be recruited as there are billets, and these then be assigned by lot into experimental and control groups.

We would, of course, want time-series data on many other features than per cent recruitment. Once on the job, we would want data on requests for transfer, quitting the school system, and probably on an annual report form in which each teacher would report on areas of success and disappointment, his long-range goals, his estimates of the chances of the underprivileged bettering themselves, etc., collected, of course, for the pre-experimental class years too.

Question: Why have't you said anything about the necessity for having persons trained in research to give the specific and replicable definition of the treatment. For example, when Dr. Rivlin sets this atmosphere up for his candidates, I can see that there might be variations in how they are received in the schools, and in where they might go. And all of this could produce a long list of crucial variations, anyone of which might cause the opposite results or lead to negative results when tried in other places. What I'm really asking is, why you have not built into the ideology of administrative research the necessity for competence in research? Why have you not called for more rigor and safeguard? Without this I have serious question about the utility of greatly increasing so-called experimentation.

Comment: Who is to decide on research methodology? Look at the list of twelve sources of invalidity of experiments. These did not come from any philosopher of science, these came instead from the criticism of specific experiments by people who were in a position to know of specific weaknesses. My list of factors are abstractions from a literature in which specific experiments have been criticized. In our present case, who is in a position to provide this criticism? I think it is the teachers and the school administrators. In every science we have learned about experimentation by doing it. It is not enough to get more people in to research design courses. The basic cure is to get people doing experiments and criticizing their experimentation in terms of the specific issues that the setting produces. Better than incompetent people try to carry out and interpret experiments than that experimentation be postponed until a year of training in research is given to every teacher. I do seriously believe this. It will help to read the Campbell and Stanley chapter (1963) only because that chapter is an accumulation of types of criticisms, and gives a list of things that have previously gone wrong.

This is not to discourage extension of research training. I think it would be good to give each teacher a course on experimenting with teaching methods in his own classroom practice, and each educational administrator a course on interpreting administrative changes as experiments.

Question: Most of us come from school systems with some repeated testing program. For example, we have accumulative cards for each student, and all testing scores are recorded on it, right through from the elementary grades to the teachers college. At any given point we can go back to look at these records. However, when we go back, we often discover that our data are meaningless because we have not all been using the same tests. One school used Stanford, another California, etc., at the same time, and in addition, each have shifted from year to year. Now within the last four years our own school system has moved to a common test because we can get interesting results. Of course it is going to be a while before we have the same tests for all different schools and systems. My question is, with all of the different tests, how can we have useful time-series data?

Comment: I certainly would be a strong advocate of using as comparable measures as possible within a system. For example, even if you feel that a given test is out of date, it may be better to keep with that inadequate test so that you have for time-series experiments a succession of the average performance of the fourth graders year after year, for example. In defending the utility of such consistent inadequacy, I would like to emphasize the "plausible rival hypotheses" strategy. If you take a modern course in research design you end up with the impression that all experiments are invalid until they are proven valid. Now, the strategy I am advocating is the opposite one: All experiments are valid until you find a plausible rival hypothesis that explains away the results. Thus even though you have not used randomization, even though this and that went wrong, I am asking you to interpret the experiment as valid unless these uncontrolled factors provide a plausible explanation for the way the results came out. Now if a shift in the test administered coincides with a jump in the time series, this shift could explain the result, for we know that test constructors never use the same or really equivalent standardization populations. If, on the other hand, we had test heterogeneity within our school system, this would fail to explain away a shift in mean achievement scores unless there had been simultaneously a shift in the proportion of the students getting each test. Further, it would often be possible to partial out separate time-series evidence for the separate tests. (Another very subtle problem in time-series experiments following the same group of children over a number of years is that the standardization populations for different age levels are rarely precisely comparable, producing artifactual jumps in the time series.)

## Haubrich's Question as to the Effects of Poverty on School Attendance

An issue raised by Dr. Vernon Haubrich in one of our discussions offers an opportunity to present some important issues in administrative experimentation. Haubrich's question and observations were on the effects of poverty on school attendance.

One approach to this problem would be the correlational one, comparing absenteeism for various levels of parental income. While such studies are informative, they lack the delineation of directional relationship which experiments and quasi-experiments can offer. The familiar customs of dilatoriness could have caused the poverty, for example. But how can we experiment with poverty?

Haubrich's initial data are in the form of comparisons between absences on days when the school is collecting money from the pupils and days when no such collection takes place. (This approximates the Equivalent Time-Samples Design of Campbell and Stanley, 1963.) If the occasions of collection are not correlated with other occasions inclining to high absenteeism (such as perhaps, Mondays or Fridays), such data can provide a very impressive quasi-experimental design.

One way of analyzing such data would be in terms of the correlation of two time series, after the manner of the economists. One time series is absences, the other is the amount of money which the child is asked to bring (ranging from a mode at zero to some higher figure). This form of analysis, with the exploration of the effect of lagging one variable upon the other, is a mode of analysis which the other social sciences could well borrow from economics (viz. Campbell, in press).

Stating the analysis in this form calls attention to the fact that technically the evidence is correlational, rather than experimental, as long as the occurrence of the "experimental variable," the money collection, has not been scheduled by the experimenter so as to make the occasions totally uncorrelated with any lawful antecedents, including anticipated attendance. Thus one might want to verify the effect by scheduling collection days through a table of random numbers.

Here again, however, the nonexperimental data should not be discarded unless there can be found a plausible rival hypothesis to which one is willing to give the status of a law of strength comparable to one's favored causal hypothesis. For example, were the correlation found to be the-larger-the-collection-the-higher-the-attendance, then one might hypothesize that collections were being scheduled to occur on days of predictably high attendance on the basis of weekly cycles or other factors. In such a case, cause would be from absenteeism (anticipated) to collection. But for the correlation the-larger-the-collection-the-lower-the-attendance, such a reverse causation based upon anticipation is probably not plausible, and therefore the data would be unequivocally interpreted as *confirming an effect of collections upon* absenteeism. The agricultural economists in correlating annual rainfall with wheat prices have had a similarly unambiguous causal interpretation up until recently. However, were artificial seeding of rainclouds to become more practicable, then a causal direction from (anticipated) wheat prices to rainfall might be plausible.

On a problem such as this, one could look for other "natural experiments," instances into which in the life continuity of a child poverty has intruded at a specific point, instances of catastrophic poverty such as cases where the child is poor because the wage earner has died, or in which an entire factory closed down and moved out of the vicinity, so that poverty is introduced abruptly into a time series. Or one can move from natural experiments into administrative experimentation. Haubrich suggests such an experiment in which the school stops asking the pupils for money. Such an experiment is elaborated in one of the research projects proposed by Group III presented elsewhere in this report.

## The Buffalo Experiment in School Revitalization: The Strategy of Staged Introduction

In our discussions here, Doctors Frank J. Dressler and Warren Button have described a program under which the teaching staff morale of a slum school was greatly improved through a variety of means. Let us interpret the Buffalo experiment as a Multiple Time-Series Experiment. What institutional records would be usable? You who have detailed familiarity with the setting are in the best position to be creative as to what institutional records might be tried. Let us suppose that we have measures of average length of tenure of teachers in each school, or the average number of years that they have been on the present staff, or some other indication of turnover rate. We might also have the number of requests of transfer per teacher, and other useful indications are probably in the records right now. Then at a given point in time, we introduce the Buffalo treatment for one of these schools. From the reported impressions as to what happened, we can imagine that over the years covered in the time series, things are getting worse, so that year after year the average length of tenure is going down and the number of requests for transfer is going up. We plot such trends for each school, and note that for this one experimental school we get a reversal of trend, while for the others, the "control" schools, the worsening trend continues. It would be very instructive to have actual time-series plots on each of a number of already available indices. I doubt if this has been done, but it could be, and should be before we offer the experience as inspiration to other school systems.

To use this as a take-off for more general design issues, it can be noted that there is one big disadvantage to always picking the worst group as your experimental group. The Chicago Youth Development Experiment here in Chicago is finding this. We have a social system which runs around putting out fires. The school you will pick as worst is probably going to be in a neighborhood in which many other civic agencies are putting in their strongest efforts. By the time you have been alerted to the fact that this was the worst school, other firemen are already there trying to help things. When we then look at the other events that occurred here in this neighborhood that could have produced this effect, we are apt to have many plausible rival hypotheses, although in this case I don't think it is likely that they would have had direct or immediate effect on teacher tenure.

The Buffalo experiment involved a complex package. On this, I would like to enter a slight disagreement with what Nathan Gage said about doing science with pure variables vs. complex treatments. I think the natural history of experimentation is always to use complex variables first, and, if you get a dramatic effect, then to start further experimentation to find out what part is essential. There is no objection to using a complicated package like your Buffalo package. The very nature of remedial action in social situations necessitate this. If it has a dramatic effect then it is time enough to start peeling it away to find what is the most essential part of it. No matter how "pure" your treatment variable is, it will eventually in the history of science turn out to be a package anyway. And it often turns out that our early guesses were wrong as to what part of the package was causing the effect. If this is so in pure science, it is particularly so if we are interested in applied experimentation. Let's be willing to experiment with packages even though if we get dramatic effects and disagreements as to what part caused the effect, we will have to follow up with more analytic experimental treatments.

The Buffalo study illustrates the desirable strategy of staged innovation. Where an administrator can do so, I would favor staged introduction of innovations, so that one can get something like experimental and control groups for analysis. If we are introducing a new policy, it probably is going to be so cumbersome and to require such supervision from the central office that it cannot be introduced simultaneously anyway. If so, let's introduce it in a deliberately staged way so that we can learn from our experience. If we have a new policy we are introducing, let's introduce it in such a way that the groups that get it first and the groups that get it last are as comparable as possible. All groups eventually get it, but within this transition period the experimental group and the control group can be comparable. The costs of such designs are not great, although it often means a little bit more bookkeeping in the beginning. The schools that are going to get it first should be scattered over all of the city, as should the schools that are second and third, etc., which causes more administrative effort than introducing it in region by region. In the latter case, our first group might be in the suburbs, the second group in the slums, and thus lack optimal comparability. Even if we are going to introduce something as trivial as new texts, if we want to evaluate it let's introduce it by states (perhaps by developing matched pairs or triads of schools and then randomly assigning within these). In the Campbell and Stanley (1963) chapter a distinction is made between quasi-experimental designs and true experiments (such as their designs 4, 5 and 6). It should be emphasized here that administrative experiments can be true experiments and should be whenever possible. Quasi-experimental analyses should be used where nothing better is possible, but our emphasis upon this should not detract attention to the frequent, low cost possibility of true experimentation which advance planning can make possible.

### The Northwestern Tutoring Project

Over the past few years, a volunteer group of Northwestern University undergraduates, with the advice of Professor B. J. Chandler among others, have been tutoring academically retarded students from several central city schools. Currently two students, Frances Willis and Lionel Dresde, are planning honors theses evaluating the effect of the tutoring upon the pupil tutees. A discussion of the problems of research design encountered offers opportunity to illustrate a number of important points.

First, as to measuring instruments: the initial thought was to introduce personality tests and morale inventories. But as these would almost certainly have to be administered by the tutors themselves, changes might well be due entirely to the increased familiarity with and friendship for the tutors. No such changes could be expected from a control group, nor were they likely even to submit to the tedious testing involved. Differential refusal rates might well explain the differences. It became obvious that meaningful measures would have to be administered by a neutral third party in equally good contact with both experimental and control group. The third party available is obviously the school teacher, with examination grades, course grades, standardized achievement tests, absenteeism records, tardiness records, etc. These institutional records are obviously relevant to the goals of the tutoring project. Although the tutors feel that some of their major impact is upon such intangibles as hopes for self-betterment, trust in the goodness of the majority community, and the like, these will probably have to go untested until the annual or semiannual student morale ballot can be introduced into the classrooms from which the students come. In the meantime, the available records are more than adequate to justify the experimental analysis.

If school records are to be used, why not measure the effects of the tutoring already done in previous years? This would be worthwhile. It would be good to have comparative data on tutored and untutored students from the same classrooms across the several marking periods of the year of tutoring, the previous year, and the subsequent year. However, there is one very plausible rival hypothesis left unchecked under this design, number eight in our list of sources of internal invalidity, the "interaction of selection and maturation." In the previous years, the pupils have volunteered for tutoring, and have had to go to considerable effort to get to the place of tutoring, away from the school building. Thus those exposed to the treatment have been _self selected_. Compared to the rest of the class, they are eager beavers, and would probably have improved more than the rest of the class during this year, even without the tutoring, as a result of the numerous other efforts at self-improvement they would be making. What we need in the control group are pupils equally motivated, but lacking the tutoring.

## _Randomization in the Allocation of Scarce Resources_

In settings where volunteering is an inevitable part of the setting, and in which the experimental treatment is a scarce resource in short supply, one useful strategy is to recruit volunteers in at least twice the number that can be accommodated. Again, as in the staged introduction, randomization can be presented as the fairest way of deciding who gets the treatment, producing an equivalent untreated control group as a by-product. Under such conditions, the volunteers understand that not all will get the treatment.

This device is admirable, although it creates in the control group an awareness of missed opportunity which could jeopardize external validity as a "reactive effect of arrangements." In the present study it has been decided to try to keep the control group from being aware of the availability of the treatment. Rather than calling for volunteers from the pupils, teachers will be asked to nominate matched pairs of pupils judged to need the assistance, to be likely to cooperate and to be residentially stable enough to be likely to remain in the school throughout the year. These pairs, matched also on sex and age, will be randomly split into experimental and control groups. At the end of the year, the teacher's records for these two will be abstracted to provide the basis of statistical comparisons. The experimental pupils will be individually contacted and invited to participate, with the tutor making every effort to put himself at the tutee's convenience.

Why do the instructions to teachers include estimates of residential stability and cooperativeness, when these requirements obviously bias the sample in the eager-beaver direction, reducing external validity and representativeness? The reason is an internal validity factor, and these must always have priority. If very few of the designated experimental group actually participate, this weakens or complicates the design considerably. The cooperating experimentals cannot be compared fairly with the controls as a whole, because they are a select subsample of the original experimental group. The most conservative treatment is to compare the total of the invited experimentals, participating plus non-participating, with the total controls. (Other approaches focusing upon the upper edge of gain scores for both groups, down to a cutting point determined by the number of participants, are being explored.)

The creation of a control group often goes against a therapeutic principle of giving scarce cures to the most needy. In spite of the democratic justification of randomization and the social gain from reality testing, many times this will take administrative guts. Let me give you the Saulk vaccine trials as a concrete illustration of this. They had a vaccine which they thought would save children from polio. If there were children that didn't get it, some of them were going to die "needlessly" and were going to be on their consciences. Think of the guts it took in this situation to give some children a saline solution in place of the Saulk vaccine, and to have those children dead next year, when if you had only given them the Saulk vaccine they would be alive. How did they get the moral fortitude to be able to do this? We need such fortitude, and we need the moral justifications that support such decisions. If the vaccine is in short supply, then if we distribute it on a random basis, we distribute it in such a way that we learn something from the limited supply that we have. We learn something that we couldn't learn if we had enough for everybody, nor if we used the procedure of giving first to those who needed it most (a procedure which too often also allows for the bias of special privilege to wealth). I am sure that in every school system you have many goods which are in too short supply to go around. With the democratic use of randomization, you can use these short supplies to create genuine experimental tests of the efficacy of that good.

Question: What happens to the tutors in this? From an educational point of view, we should be concerned with them and what happens to them as a result of their participation as well as what happens to the pupils they work with?

Comment: I have given you a feasible experimental design to measure the effect on the pupils that they are working with. This design is possible because we have more potential tutees than we have tutors. If the situation were reversed, and there were more volunteer tutors than tutees needing them, I could give you an equally elegant design. As it is, I have not been able to devise one, although I am fascinated by the effect on the attitudes of a sheltered upper-middle-class college student who has oversimplified the teachings of social psychology courses so as to learn not only that everybody is probably inately equal, but also they are in practice equal. (It is hard to connect the pupil's abilities with the vocabulary level of his home environment, the absence of previous opportunities, the fact that he has never had blocks and mechanical toys to play with. These connections are not "visible" while skin color is.) We could develop an annual attitude test and give it to all Northwestern students, and then pull out time-series analyses for those participating. But without a great deal of artificial apparatus, I see no easy experiment possible.

Strange as it may sound, one of the things I would advocate is opportunism. For the impact on pupils, an elegant laboratory is readily available. For the impact on the tutors, none is. Therefore, we study the pupils. Science, as it has existed, has been tremendously opportunistic, working first in the areas where it had laboratories. We should similarly leap to exploit the natural laboratories available in the social sciences. Colleges like Kansas State and Oberlin assign Negro and white students to dormitory roommates at random. Here is an impact situation that is interpretable, with excellent experimental and control groups available.

If the laboratory provided by the tutoring project proves effective, then we can opportunistically see what other problems can be tested in it. It will be particularly useful for comparing tutoring methods. Should you coach a child so that he never makes a mistake? Skinner and his teaching machines say, yes, allow no mistakes. The theory of knowledge lying behind the theory of experimentation I have been advocating (e.g., Campbell, 1960) if extended to the school situation, would say we have to learn by making mistakes. We have to give the pupil educational situations which will call out his predominant biases, so that he will learn they are wrong. Now these are quite different theories, and corresponding to them we could develop two ways of tutoring: one in which we only ask the child to make guesses where we have hedged the situation in with words so that he will guess right; the other of which we encourage him to expose many early guesses to reality testing.

## Order of Experience for Interns: Counterbalanced Design

In one of the early discussions of this conference, Mrs. Evelyn Carlson gave as a minor but illustrative need for information the question as to whether the teaching interns being received from a group of non-urban colleges should be first assigned to a suburban school and then a central-city school, or whether the reverse order were better. She presented the question as one upon which social science advice should be useful. While in neither her mind nor mine is the problem of a level of importance comparable to the great bulk of those presented at this conference, it does provide an opportunity to illustrate some further points.

First, note the great range of generalization required from any analogous social science data. I think of two lines of evidence: Experiments by educational psychologists have shown that students get more problems right with an easy-to-difficult problem order than with a difficult-to-easy order. If slum schools are more difficult than suburban ones, then the suburb-urb order should leave the student with the greatest feeling of mastery. The other possibly relevant data comes from studies of primacy and recency in persuasion. These are of dubious extrapolability, and find both primacy and recency effects, usually canceling each other. In general, on matters relevant to Mrs. Carlson's question, social science knows little that is relevant, and has had so little opportunity to experiment, that if she finds out which is better, she should inform social science, not vice versa.

The experimental design which suggests itself immediately is what McCall in his classic How to Experiment in Education (1923) called the "rotation experiment," and today would be called a "cross-over design" or "counterbalanced design." The plan would be to split the interns into two groups, one getting the urb-surburb order, the other the suburb-urb. The design fits in well with housekeeping requirements, as the facilities in both areas are used at both periods. By noting from which group the greater number of teachers are recruited, etc., and by replicating the design for several years, an excellent experimental answer would be provided at almost no cost other than a few hours of bookkeeping and planning. Of course, one would probably want to supplement these institutional records with a brief opinion and career-plans survey.

## Sources of Resistance to Experimentation and Evaluation

The steps required are accessible enough and have been advocated often enough so that administrative experimentation would be standard practice rather than almost unheard of were it not for important sources of resistance. In concluding this talk, it seems well to discuss some of these.

*Costs: priority in the allocation of funds*. For any administrator, there are financial demands and needs far in excess of available budgets, and this would continue to be so were the budget to be doubled or tripled. It is of the nature of social organizations that the budgetary demands for increased services, increased facilities and increased personnel in already existing functions are represented by persisting and vocal spokesmen for particular interests within the system. Evaluation and experimentation usually lack any self-interested sponsorship, have no natural pressure groups acting on their behalf. However, much lip service may be given to reality testing and experimentation, when it comes down to specific budgetary priorities, it always turns out that there are not enough funds to go around.

While administrative experimentation such as I have been talking about could be carried out with a 10 per cent increase in the burdens of existing record-keeping staffs and one day per month from one of the

existing record-keeping staffs and one day per month from one of the

existing executives, it may be well to organize record-keeping activities as a separate staff under the direction of a research-oriented professional, in a Research and Records Department, just to build into the system this personalized reminder of the importance of this function. Such a department could well afford to have in it a cost-accountant. In the long run, administrative experimentation is going to require the combined talents of social science (including educational research) and modern cost accounting (including "operations research"). Such departmentalization would provide an internal lobby to protect the funds for this important function.

### Political Vulnerability from Knowing Outcomes

In many of the political climates in which we operate, hard facts evaluating organizational effectiveness are a political liability, while the mask of ignorance is a genuine protection. To return to an earlier example, Chicago's reform police superintendent Orlando Wilson was wise (albeit perhaps unintentionally) when he rendered the police records uncomparable with previous periods. (Although this may have been necessary, as his mutinous subordinates might easily have inflated the records just to embarrass him, easily done when a sizable portion of crimes have been going unreported.) Similarly, in these days many school systems are less vulnerable because their records and summary figures are "color blind," they in fact do not know which pupils or which teachers are Negro, nor in which schools Negroes are present. Records of over-all achievement, and trends over time, can be selectively cited by politicians for their political ends. One is often better off where standing can be argued rather than ascertained.

We can hope for less self-defeating political systems. Until they emerge, it may seem wise to restrict administrative experimentation and the attendant assembly of statistics to the comparison of alternatives realistically available to the administrator, to neither of which he is unalterably committed, or committed in a way in which the outcome could be embarrassing. If time series are used, these can be reported as departures from the secular trend, without publicizing what the secular trend is, etc. With a beginning of experimental experience on neutral issues, we can perhaps build a social system better able to tolerate reality testing. (In the Bureau of Labor Statistics figures on cost of living and on unemployment we are beginning to do this, though many an in-office official has wished at times that the data were not available.)

Although the machinery of administrative experimentation is available for use in the evaluation of single administrators, we should probably not use it for this purpose. Such results have no extrapolation value, cannot contribute to accumulative applied science. Similarly, over-all evaluations of total systems are both highly threatening and void of implications for policy decisions. It is better that we experiment with policy alternatives, where outcomes can provide generalizable bases for action.

## No-Difference Outcomes

From more experienced research workers, dread of the very frequent outcome of no difference can serve as an inhibition. Such an outcome is painful and frustrating, and is worth avoiding for this reason alone. For longer and harder the experimental effort, the more torturing this pain. Furthermore, the experimenter may often feel that the lack of difference is due to the crudity of the measuring instruments--and institutional records are apt at such times to seem both crude and remote as symptoms from the expected effects. No-difference outcomes may be particularly expected where two policies each with strong advocacy are being compared--the advocacy gives evidence of probable (partial) truth to each.

Furthermore, the no-difference outcome when combined with the costs of changing policy, strongly reinforce the conservatives within the organization who favor a no-change policy. The potential administrative experimenter may correctly feel that change is in itself desirable as an organizational stimulant, even if the new policy is intrinsically no better than the old one, and may rationally prefer to introduce an innovation without evaluation rather than risk stalemate from a no-difference outcome. (If the value of chance per se were to become recognized, one might change the rules so that a new policy would always be introduced unless research showed it to be significantly worse than the old.)

## Overconfidence in Decisions: Dissonance Reduction

The experimental approach connotes a tentativeness about administrative decisions, a willingness to consider the possibility that either alternative might be superior. This attitude is uncharacteristic of the decisive administrator, or, indeed, of anyone who is forced to make a total commitment to alternatives which may in fact be very evenly weighed, or ambiguous in their implications. Recently, Festinger (1957) and others (e.g., Brehm & Cohen, 1962) have provided evidence of a dynamic re-evaluation of alternatives which takes place after decision making, leading to a consolidation of the choice, creating a rigidity of decision. Such "dissonance reduction" devalues the rejected alternatives and enhances the chosen one. Such processes may be a necessary part of a decision-making process that is not going to oscillate in indecision. But its psychological concomitant is to create such an exaggerated faith in the decision made that evaluative research seems needless. Accompanying this is the dissonant fear that research might prove that alternative wrong.

The spelling out of these sources of resistance does not mean that I find them justifying inaction, nor compelling, even though each has its modicum of justification. Laying them out this way may give us the insight to overcome them.

## SUMMARY

This talk has advocated administrative experimentation, using institutional records as measures of effect. Such experimentation could be a repetitive, continuous, in-service activity, an alternative to big one-shot research projects imposing outside staffs and measures upon the organization. The findings of such administrative research would have optimal generalizability to administrative decision making.

This orientation has then been applied to five concrete problems, illustrating an equal number of design alternatives and numerous analysis problems. Sources of resistance to administrative experimentation have also been discussed.

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# CHAPTER III

## PROPOSALS FOR RESEARCH--CENTRAL PROJECTS

As the seminar began identifying and developing research problems, three major questions were raised. First, even though the seminar was studying problems related to teacher education in urban areas, were there problems within the scope of discussion that deserved identification as high priority items? Second, even though the seminar dealt with problems requiring immediate and concerted study, would it be profitable to address some attention to areas in which basic research needed to be conducted? Third, even though categories of research are usually loose and overlapping, would it be helpful for the seminar to create categories of proposals for its own purposes?

## THE QUESTION OF PRIORITY

Within the broad scope of urban education, some questions focus on education in the central cities; within the scope of the central city, concern must be somehow divided between competing emphases for educating the gifted, the so called average, the vocationally-oriented, the college-bound, and others. A pertinent question raised in the seminar was an assignment of priority of concerns for concentrating effort on certain research problems. Although not all seminar participants agreed fully with the idea that the gray areas within a central city should receive first priority, there was extremely strong support for the contention that the culturally-deprived child both requires and deserves increased attention and high priority.

The incidence of mental health problems is greatest in the slums. A sociologist commented that when social class figures on mental problems are examined, the only significant increase from one class to another is between the lowest socio-economic class and the one above it. Welfare applications, unemployment compensation requests, incidence of crime, school drop-outs--each of these rates is highest in the gray areas of the big city. If adequate education can be supposed to have an impact on these problems, then the educational opportunities in the gray area schools must be commensurate with the enormity of the problems faced.

America must avoid closure of avenues for social mobility. One mark of American progress has been our ability to capitalize on the energy and genius of people driving for their place in our society on the basis of intelligence, industry and initiative rather than by cash, caste or class. Education has long been an effective avenue of social mobility for Americans; opportunity to move up economically and socially is only as good as the schools the youth of our nation attend.

The material culture of our middle classes has been advancing in quantum jumps; that of the culturally deprived has not. This gap must be lessened by raising the latter rather than by reducing the convenience or comfort of the former. The gap can be closed only with education, with opportunity for employment and with the worthy use of leisure time. It has been argued that to allow our 19 million American Negroes equal opportunity for employment, and equal pay for equal work, would boost the economic growth of this nation by $12 to $14 billion a year. Realization of such opportunities should also reduce substantially the money spent on unemployment compensation and similar drains on the economy. The point was well taken in this seminar that the semi-literate, unskilled person cannot take advantage of jobs that are available. With only one of two non-white Americans completing high school today, how can these citizens generally be expected to have the intellectual or performance skills needed to obtain and hold a job. The seminar touched again and again on the convictions that educational opportunity is the key to these problems and that where the circumstances of education are changed for the good of the gray area school youth, they also serve the good of all Americans.

For these reasons and others, the seminar participants urged that priority be given to those teacher education projects most directly affecting the education of the culturally deprived child. The point here was not to say that we can afford to ignore other educational problems, but that the extension of educational opportunity to the culturally deprived provides a considerable service to all of us.

## THE MATRIX OF SOCIAL DEPRIVATION

A second major concern during the seminar emphasized the contention that the social matrix in which the culturally deprived youth lives and is educated must be studied intensively by social scientists and educators.

Many of the values we once based our decisions on have changed since World War II. Many prescriptions of our fathers no longer work in our changing, technological, industrial, metropolitan culture. "Stay on the farm," "don't join the union," "quit school and do a man's work," "don't buy on credit," "do what daddy says not what he does"--these remedies have been rejected by many because they no longer help us solve our problems.

As our values have changed, so too has our ability to enforce conformity to any values diminished. The lack of primary contacts, the impersonality of the city crowd, the increasing amount and availability of pornographic material and other such factors have freed some people to behave almost as they wish without apparent restriction. The rumble, the crude language in public places, the drag-race on public highways, party crashing and the like reflect little concern for the public good or for the power of the public to restrict such acts. The adolescent today has been somewhat forced to create his own society, his own language, his own mores, his own controls, because so many adults are so confused about their own values that they fail to provide youth with stable, satisfying models for emulation.

Although this emerging youth culture strikes across all class lines, there exists a deep concern for the behavioral welfare of the culturally deprived youth in particular, simply because parts of his new youth behavior patterns seem to be furthest from still accepted tenets of democracy. For these reasons the seminar participants recommended that encouragement be given to social scientists and educators to investigate: (1) the nature of the culturally deprived youth; (2) the nature of his sub-society; (3) the power structures of his school life, and (4) the differences between the perceptions, aspirations and understandings of the culturally deprived youth and those of his teachers.

## THE PROJECT CATEGORIES

One of the unexpected by-products of the seminar discussions was general agreement on a research framework within which the proposed projects could be given some degree of order. The four categories accepted were drawn from Professor Gage's paper and adapted to the purposes of the seminar. The four categories included (1) the descriptive survey; (2) the demonstration project that is too complex for the researcher to sort out the influence of each variable; (3) the researchable problem involving a modification in organization or practice--with the modification serving as a measurable variable; and (4) basic or applied research of a conceptual nature. These four general types were laid out on a comparative scale of rigor:

Increasing Degree of Rigor

| Type A | Type B | Type C | Type D |
|---|---|---|---|
| Description Projects | Demonstration Projects | Researchable Modifications | Basic Research |

The Type A projects require the collection of data that can be analyzed for descriptive purposes. A project for disseminating such descriptions and the results of more rigorous studies is described in Chapter V.

The Type B projects reflect Gage's statement that "many of the proposals have such obvious merit that what they require is not research but rather implementation, as quickly and wisely as the administrators and leaders of our teacher education programs and school systems can possibly bring them about." The demonstration project is an attempt to test a hunch or postulate without becoming involved with the time-consuming complexities of setting up elaborate, formal research designs. Evaluation of the demonstration is based on determining how well the results meet the criteria set up in advance for measuring achievement of the project's objectives.

The Type C projects involve the observable manipulation of variables and may involve control groups for comparison purposes, but do not utilize randomization or the careful control of most reactive measures. The evaluation of these projects, however, is based on inter-group analysis of data and the use of tests of significance.

Type D projects involve basic or applied research where true or quasi-experimental designs are utilized, or where data are collected in other acceptably rigorous ways. These projects are conceptual in nature, for they are intended to contribute to the development of theory as well as to provide guides for practical action.

## PRODUCTION OF PROPOSALS

During the committee meetings held by each of three groups described in Chapter I, a considerable variety of problems was described. These proposals were discussed with these characteristics in mind: (1) it is of significance to teacher education and to urban education; (2) it should be of interest to each of the great cities and universities located in them; (3) it requires the active participation of both city school systems and colleges. These proposals were then drafted by members of a group for submission to the seminar in general session. After all proposals had been read and discussed, two procedureal recommendations were made and eight research projects were selected for submission as alternative central projects. These eight projects are described in the remainder of this chapter.

Demonstration Project 1

## THE DEVELOPMENT AND EVALUATION OF SCHOOL-UNIVERSITY TRAINING CENTERS FOR THE PRE-SERVICE EDUCATION OF TEACHERS FOR GREAT CITIES

### Problem

The Great Cities are faced with a myriad of problems in obtaining and retaining adequate numbers of competent teachers for their schools. The uniqueness of this problem in the city is not simply an arithmetic progress from the smaller city or the suburban area but a geometric progression in magnitude of size and concentration of population. The teacher moving into a city is faced with a situation sufficiently unique that a pattern of special training seems required to provide a reasonable chance of success.

The pattern of special pre-service training required for the teacher in the city is not, of course, completely unique from that required for all teachers. As a matter of fact, it may well be that a good basic program of course work and experiences in education would be adequate if it were supplemented by an opportunity to participate directly in the processes of city education. If the college student had available to him a laboratory in which his conceptual knowledge could be tested and reformulated at the technical and human levels during his pre-service education, he might be adequately prepared to face the first teaching situation in a city with confidence, skill and understanding.

### Objectives

To provide pre-service teacher education experiences for students preparing to teach in a city school which would:

1. Allow the student to test his conceptual knowledge in a practical field situation.
2. Introduce the student to the uniqueness of city educational problems.
3. Ease the transition of the student from the "shelter" of the college to the reality of city teaching.
4. Stimulate the student to bring a spirit of inquiry and interest to his teaching assignment in the city.

Procedures

This proposal envisions the establishment of school-university training centers in each of the Great Cities. Depending upon the interests and abilities of the participating cities and universities, the centers should enroll pupils to represent the full range of grade level organizational types, i.e., elementary, secondary, K-12, vocational, etc.

Each center would become the focal point for practical field experiences for selected pre-service teacher education students from the colleges involved. The center would be staffed jointly by the school system and the colleges employing short term assignment (6-9 months) of regular staff members who would then return to their permanent assignments, with staggered longer assignments (e.g. 3 years) for a smaller percentage of the staff-circa, one-third. Each center would operate a conventional (but experimentally oriented) educational program for pupils from depressed areas in the city involved. In addition, special facilities would be set aside in which small group, extra-class, counseling, cultural and recreational activities might be conducted.

Teacher education students who are participating in the center's activities would be selected by the university in their first year of teacher education and should represent approximately 50 students per center for each academic year in teacher education or approximately 200 student teachers per center as the center achieves full operation. The students would be asked to volunteer for participation in the center but would be selected from among the volunteers to represent ranges of ability and personality characteristics.

The activities of the center for the teacher education students would be geared to a program of increasing complexity from observation through the direction of the teaching-learning situation. If the program is successful, most of the student teachers would participate for a full four years but to compensate for attrition, substitute assignments should be made to keep the total student teacher contingent near the level of 200 per center.

The student population of the school would be selected by the participating school system to be representative of the range of student abilities and characteristics (including, but not exclusively, extreme problem cases) among students in the city. The curriculum of the school would be similar to that provided by the city in its regular schools but experimentation with new methods and techniques of instruction should be encouraged. The physical facilities should be reasonably representative of those available in the city system.

The evaluation of this demonstration program will involve long range follow-up of the participating student teachers. They will be assessed in terms of such measures as:

1. Their tenure in great city teaching situations,

2. The assessment of their success in teaching by their administrative and supervisory superiors in the systems, and
3. Their assumption of leadership positions in the education of students in depressed areas.

As is characteristic of most demonstration projects, comparison between the demonstration group and specified controls will be nearly impossible. The question, therefore, is not whether the center is better than something else or nothing but whether it achieves the long range goals envisioned for it. If the innovation is judged as generally successful; it can then be compared experimentally with other less expensive or less time-consuming mechanisms for attaining the same results.

Demonstration Project 2

## INDUCTION INTO STUDENT OR INTERNSHIP TEACHING

### Problem

No where in the preparation of teachers is there less continuity than in the character and organization of the experience by which the candidate in teacher education is inducted into student or internship teaching. An altogether too general practice is for college professors to offer verbal descriptions of what may be expected in the schools. This is then followed by a discussion of "do's" and "dont's" for the student teacher. After this ritual, the student teacher is sent out into the schools to practice his teaching.

Such procedures are generally inadequate; they are especially inadequate for teachers being prepared to teach in the culturally deprived areas of the great cities. What follows is a proposal for the establishment of a unified sequence of pre-student teaching experiences. Some special characteristics of the new sequence will include:

1. Special training in the analysis of teaching.
2. Observation of teaching by teams of students.
3. Analysis of the events that are observed by teams of students.
4. A unified sequence of induction activities.
5. The use of various communication media in the observation of schools and the analysis of teaching.

### Objectives

The suggested sequence is designed to:

1. Reduce anxiety about student teaching;

2. Implant problem-orientation as the personal "set" of each student teacher, to replace in large part the "Will I survive?" set;
3. To make firm the student teacher's commitment to teaching in culturally deprived areas;
4. To provide a body of experiences that will energize the formal learnings of classroom instruction at the university;
5. To begin to create in the student teacher a feeling of professional solidarity with his future colleagues in the schools.

Procedures

Each student teacher will, in the course of his college work, identify a problem for bibliographical investigation; this problem will be studied in a practical manner during his student teaching. The purpose here is to shift the focus of the student from himself as the object to be watched to the professional problem. Since the problem itself will have significance, the student's investigation will probably have additional useful outcomes.

Each student will have been taught to analyze teaching. Thus, he will possess skills of analysis, categories of analysis, and a rationale that, together, will make his observation an exercise in professional diagnosis and prediction.

The elements of the induction sequence will not be invariant; they will be arranged and rearranged in such a way as to take account of differences among the teacher candidates. For example, a candidate born and bred in a culturally deprived area will not go through the same sequence of experiences as the candidate from upper-middle class suburbia.

The elements of the induction--but not the sequence--are listed below, along with indication as to how the experiences will be provided.

1. Actual or motion-picture visits to the inner city.
2. Service, for a short period of time, in a social service agency.
3. Analysis of video-tape records of classroom teaching in the culturally deprived areas.
4. Assumption of responsibility to tutor one or two students from the class to which the student teacher will be assigned.
5. Study of the curriculum for the class he will teach.
6. Attendance at case conferences in school and social agencies in the school area.
7. Actual or video-tape visits to homes of pupils.
8. Case study of one pupil.
9. Assignment of 2 to 4 student teachers to one or more master teacher. (These groups will provide peer support, peer supervision and the opportunity for team teaching.)
10. Close study, with help from school and university, of the teachers, classes and schools in the area.
11. Actual assignment to participation in teaching at a moment considered appropriate for the student teacher in terms of his readiness.
12. Video-tape records and analysis of the student's teaching.

Modification Project 1

## THE DEVELOPMENT AND EVALUATION OF CURRICULUM MATERIALS FOR USE BY TEACHER EDUCATION INSTITUTIONS IN PROGRAMS FOR TEACHERS OF CHILDREN IN THE GREAT CITIES

### Problem

The complaints of public school personnel that teacher education institutions are not preparing teachers for service in urban educational systems is generally received sympathetically in teacher education circles, but often nothing is done about it because the teacher educators have inadequate curriculum materials with which to work. The normal resources of a university make possible the enlistment of professors from supporting disciplines, e.g. sociology, who can relate the structure of their discipline to urban educational problems. A lack of realistic case study materials, however, renders incomplete the presentation of a well balanced program for the teacher preparing to enter teaching in urban centers.

Fortunately, the urban school systems themselves are excellent source laboratories for the identification and compilation of such materials. It should be possible to accumulate a wide range of case materials which, through the employment of newer educational media, could be made available to augment the content of existing courses in teacher education, and could be used for special course experiences and seminars as needed by those preparing for teaching in urban centers.

### Objectives

1. To develop a wide range of case study and source materials

in urban school systems for use in teacher education programs.

2. To package these materials in usable form employing the newer educational media.

3. To test the effectiveness of the materials in a series of different teacher education programs.

## Procedures

A development committee of Great Cities and university representatives should be appointed to:

1. Provide a simple typology of the problems and uniquenesses of urban education today which could be used in the identification of relevant case and source materials to be gathered.
2. Organize school and university development groups who would be assigned to develop materials suited to the typology, e.g., filmed or taped counseling sequences between school counselors and school drop-out.
3. Collate and package in usable form the materials developed.

Following the development of the materials, a number of universities could employ the materials in quite different ways, e.g., integrating them in existing courses, establishing new course structures, using them only with teachers already committed to teaching in urban centers, using them with all undergraduate teacher education students, etc. A series of hypotheses could be tested, for example:

1. The use of the materials has a significant effect on the number of teacher education students electing to teach in urban centers.
2. The use of the materials has a significant effect on the attitude of teacher education students toward education in Great Cities.
3. The use of materials has a significant effect on the perceptions teacher education students hold of the role of the teacher in the Great City.

Modification Project 2

## THE ENCULTURATION OF THE NEW TEACHER INTO THE ESTABLISHED FACULTY

### Problem

How and from whom do new teachers learn to handle their job in a manner that has a supporting effect on their morale and efficiency.

### Objectives

The study should include the collection of data on how and from whom new teachers learn to solve their problems. Do they learn from other new teachers, experienced teachers, supervisors, principals, pupils or parents? A second objective would be to determine if particular kinds of questions or problems are directed to particular groups of people. A third objective would be to determine various effects that various new teachers questions would have on faculty morale and behavior.

### Procedures

A random selection of new teachers placed in the schools of a city will be studied through intensive interview, observation and other devices. Self-report techniques would be utilized to find out whom new teachers turn to for answers to questions or suggestions. The questions might deal with such routines as "where do I get more chalk?"; the problems might deal with such serious things as "what do I do with this boy who is always hitting little girls?"

The data collected should indicate who the new teacher approached for help, whether he got a helpful answer or not, and whether he continued to approach the respondent for help on further questions or problems. A second type of data collected would include information on suggestions that were volunteered by others, and the usefulness of the suggestions. A third type of data would deal with the reactions of teachers, supervisors, etc. to the teacher who asks for help.

The data collected would be subjected to logical analysis and non-paramentric statistical treatment. If patterns appear on types of questions or problems of concern to the new teacher; characteristics of gate-keepers to enculturation; the effect of suggestions and the freedom to seek help on the morale and efficiency of the new teacher; and the effect the answer-seeking teacher has on general faculty morale.

Modification Project 3

## AN INVESTIGATION OF THE EFFECT OF MODIFIED ORGANIZATIONAL ROLE OF THE COLLEGE SUPERVISOR

### Problem

The supervision of student teachers by the college often has not been satisfactory. A number of university supervisors have sought to see if it is possible to revise the mode of supervision in ways which logically would seem to improve the results of student teaching. What seems to be needed is a measurable study of the effects of various modes of supervision.

Information from such studies should indicate the value of certain sorts of supervisory practices, and thus should lead to a reorganization of student teaching.

### Objectives

To determine which of a number of comparable modes of supervision is the most effective for helping the student be successful in student teaching.

### Procedure

The variations in supervision might include:

1. Supervision by professor vs. supervision by doctoral candidate.
2. Supervisor assigning grades vs. co-operating teacher assigning grades.
3. Supervisor as technical "how-to-do-it" critic vs. co-operating teacher as technical critic.
4. Supervision by the college vs. supervision by the school district.

5. Supervision by a subject matter specialist vs. an educator.

Some indicators of outcomes of various modes of supervision might include data on:

1. The student teachers' perceptions of his role as a teacher, of his analysis of the teaching process, of the learning of pupils;
2. The quality of relationships between the student teacher and the supervisor;
3. Frequency of student drop-out during student teaching;
4. Proficiency ratings during the tenure period;
5. Courses elected for further study;
6. Attitudes toward teacher preparation and teaching.

Some of the statistical tests utilized in this study might include such non-parametric measures as sign tests in attitude changes, the use of chi-square tests in choice situations, and the parametric T test on achievement measures.

Research Project 1

## MODEL BUILDING AND TESTING AS A RESEARCH APPROACH TO THE IDENTIFICATION OF SUCCESSFUL TEACHERS

### Problem

A promising approach to the study of organizational behavior that may be useful in investigations of successful teaching is model building and testing. This device takes into account variables and their relationships, as contrasted with the traits approach which has characterized research. Through model building the investigator seeks to build up a network of predictive propositions.

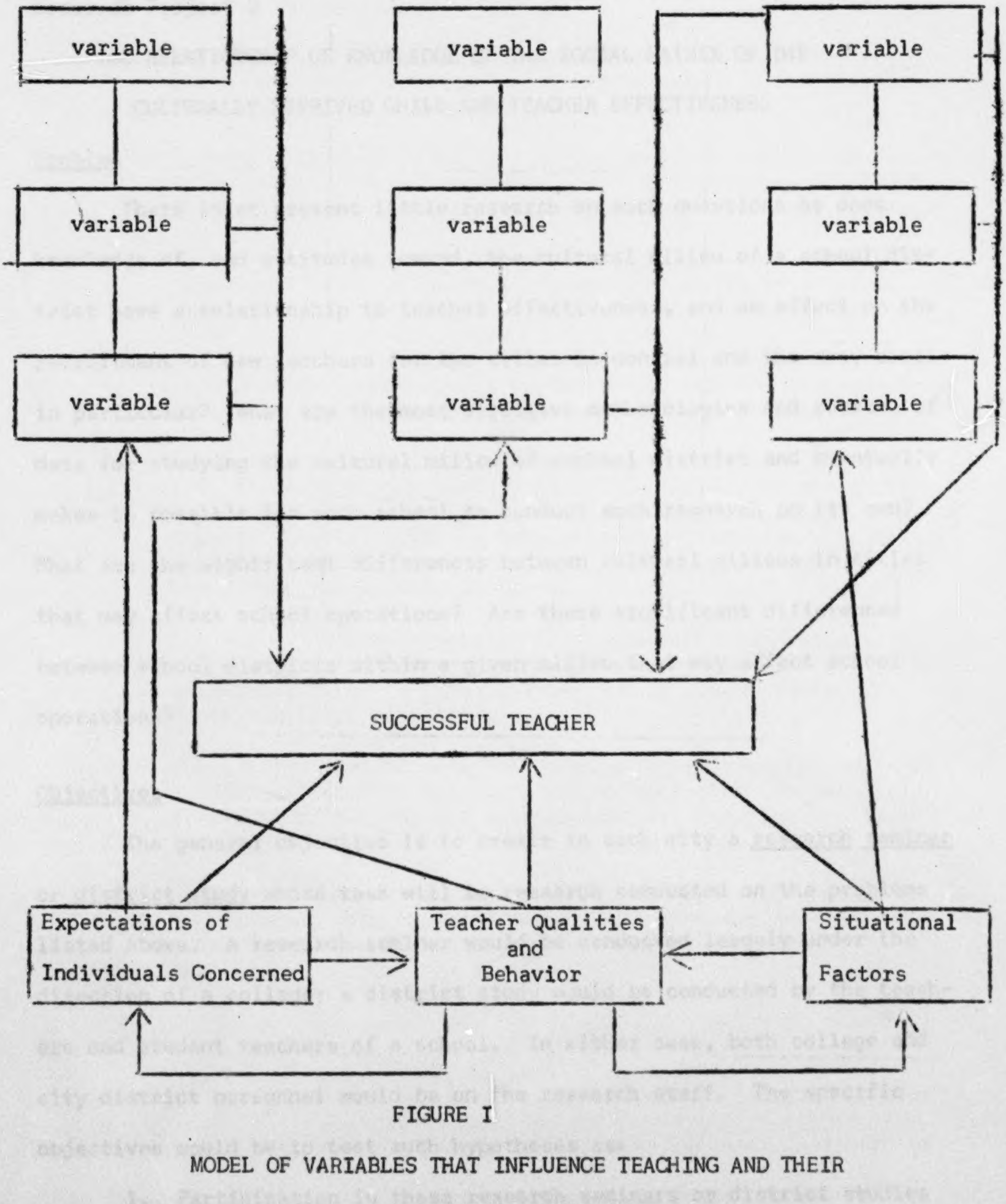
### Objectives

Without a theoretical system for conceptual analysis, the number of potential variables that affect teaching is infinite, in effect. It follows that the central task of research in this field is to identify major variables at levels of sufficient generality so that they will apply to clusters of phenomena--teacher traits, knowledge, behavioral controls, expectations of parents, pupils and school officials, etc... as indicated in the model. The law of parsimony should be invoked to prevent the statement of operationally meaningless statements of clusters of variables.

### Procedures

Existing descriptions of observed phenomena and the accretions of dogma about characteristics and qualities of successful teachers should be called into question. Facts need to be obtained about the real world of the teacher, his classroom and his behavior in it. This objective calls for fact gathering. Deduction should then be relied upon for the formulation of hypotheses that take into account the known relevant facts. Finally, the hypotheses should be tested by appropriate research so as to be able to advance from factualistic approaches into more advanced conceptual realms in our efforts to learn more about the components of successful teaching.

An example of a model of successful teaching that takes into account some of the variables and their inter-relationships is presented here for the purpose of illustration.


variable
variable
variable
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variable
variable
variable
variable
SUCCESSFUL TEACHER
Expectations of Individuals Concerned
Teacher Qualities and Behavior
Situational Factors

FIGURE I

MODEL OF VARIABLES THAT INFLUENCE TEACHING AND THEIR INTERRELATIONSHIPS

Research Project 2

## THE RELATIONSHIP OF KNOWLEDGE OF THE SOCIAL MATRIX OF THE CULTURALLY DEPRIVED CHILD AND TEACHER EFFECTIVENESS

### Problem

There is at present little research on such questions as does knowledge of, and attitudes toward, the cultural milieu of a school district have a relationship to teacher effectiveness, and an effect on the recruitment of new teachers for the cities in general and the gray areas in particular? What are the most effective methodologies and sources of data for studying the cultural milieu of a school district and eventually makes it possible for each school to conduct such research on its own? What are the significant differences between cultural milieus in cities that may affect school operations? Are there significant differences between school districts within a given milieu that may affect school operations?

### Objectives

The general objective is to create in each city a research seminar or district study whose task will be research conducted on the problems listed above. A research seminar would be conducted largely under the direction of a college; a district study would be conducted by the teachers and student teachers of a school. In either case, both college and city district personnel would be on the research staff. The specific objectives would be to test such hypotheses as:

1. Participation in these research seminars or district studies will result in observable, measurable gains in knowledge of, and attitudes toward, the cultural milieu of the districts

studied by participants.

2. Extent of commitment in these research seminars will correlate positively with the extent of the participant's involvement with the various milieus studied.

3. Involving the personnel of a school in the research process will result in more measurable gains in knowledge and shifts in attitude than if such involvement does not occur.

4. Involvement in research in a cultural milieu will result in more significant gains in knowledge and shifts in attitude than will just teaching in a school in that cultural milieu.

5. Data presentations emphasizing affective elements will result in more significant shifts in both knowledge and attitude than will those presentations emphasizing cognitive elements.

6. There are positive relationships between knowledge and attitude scores and such factors as (a) similarity of social or ethnic background with that of the milieu; (b) similarity of teachers' social class in community of orientation with that of milieu; and (c) ability to speak the language where there are differing language patterns.

7. The use of data collected in these research seminars or district studies in pre-service education courses will result in measurable gains in knowledge of, and attitudes toward the various milieus of the cities.

8. The introduction of data collected in these research seminars or district studies into pre-service education courses will result in an increase of new teachers volunteering for service in gray areas.

9. Presentation of the data on a city-wide basis will result in a measurable gain in personnel volunteering for service in gray areas and a measurable drop in transfers from gray areas.

## Procedures

Rather than impose on these research seminars or district studies completely structured research tasks, it should be arranged that each of these seminars will have dual tasks to gather data useful in all of the cities, and data which each city believes is particularly valuable for their situation.

One of the important functions of these seminars or district studies would be the learning of proper research techniques (including suspension of early judgments) by the participants. It is here that a number of social scientists should be involved in teaching, for example, interview techniques or participant-observer techniques.

A major task for these research seminars or district studies should be the attempt to understand the cultural milieu of the school district and then translate this into a form communicable in human terms to others. This should involve interviews with police personnel, religious leaders, community agencies, people working in the area, power figures in the community, and random sample interviews with community residents with a view to testing their attitudes toward the school, aspirations for their children, and recreation patterns. Census data should be used extensively--in fact one outcome should be ferreting out sources of data for use in this kind of research. Participant-observer techniques should be used--such things as accompanying patrol cars on weekends and going to such social affairs as dances and weddings.

Pertinent data collected would include socio-economic class, quantity and quality of delinquency, life style (mother-centered, father-centered families, child rearing practices, recreation patterns, incidence of divorce, desertion, illegitimacy) patterns of religious affiliation and attendance, attitudes toward education in general and specific schools in particular, aspirations for children, gang structure, social welfare agencies operating in the district and their functions and family size and patterns of dwelling occupancy. One of the important outcomes of this data collection will be the production of materials for research with pre- and in-service groups; therefore, appropriate techniques for presentation should be used in gathering of data wherever possible, e.g., photographs, tape recordings, graphs, charts and motion pictures, always with emphasis on human elements, particularly the affective domain.

Another phase after some data gathering would be to test the extent of knowledge and attitude toward the community as it exists in teachers in the school districts studied and to determine the relationship of this to years of experience and training. Also, there participant-observer techniques in the school should be used for rough measurement of the relationship between what the teachers do and what they say *vis a vis* their expressed knowledge and attitude. In addition, measurement of teacher knowledge and attitudes after exposure to data collection and presentation can be undertaken.

## Research Project 3

# THE RELATIONSHIP OF MODELS AND IDENTIFICATION FIGURES TO THE BEHAVIOR OF CULTURALLY DEPRIVED PUPILS

### Problem

It has been observed that our schools are geared to the interests and behavior of girls rather than of boys, and that too often the boys who succeed in our classrooms are those who suppress their masculinity, or in some cases, who exhibit feminine characteristics. Statistics relative to drop-out rates, juvenile delinquency, retardation and low achievement support the point that somehow schools have failed to interest many boys in formal education.

Most children model themselves after, or identify with, some figure perceived by them in "heroic" proportion. With whom does the slum youngster identify? Is it the gang leader, the sports hero, the movie star, the local ganster or the teacher? With whom do Negro boys--often living in a matriarchal sub-society--identify? Whom do they reject? What are the reasons for this acceptance or rejection?

If we knew who these models were, could they be utilized with more boys where (from the viewpoint of the school) the models are worthy of emulation? Could the models be replaced if they seemed unwholesome? Would a change of a model or identification figure in an "upward sense" change the behavior of the child?

Another basic question is: What effect would there be on the behavior of teachers if they knew the answers to the questions listed above?

## Objectives

The objectives of this research proposal would be:

1. to identify the similarities and differences in models or identification figures acceptable to boys living in slums and boys living in other parts of a city;
2. to determine if shifts of an "upward" nature in models or identification figures by boys from the slums would result in improved school performance and general behavior;
3. to find out if boys from slum areas identify better with male primary teachers than with female primary teachers; and
4. to study whether teachers who have pre-service or in-service study of the history of the Negro will be more successful in leading Negro youngsters to identify with Negro heroes and leaders than those teachers without such understanding.

## Procedures

Each of the objectives listed above would require a number of carefully designed and replicated studies if reliable knowledge is to be produced. Where possible, basic research should be conducted by social scientists interested in contributing to theoretical knowledge. But, where schools are impatient to begin changing situations that can be recognized as presently unsatisfactory, then less esoteric projects might be undertaken.

Male primary teachers could be concentrated in a slum area school. Negro history and heroes might be featured in the curriculum of a similar school. One school might bring a number of successful Negroes into a school for pupil-adult contacts of a continuing nature. One school faculty might initiate an in-service program focused on understanding Negro history (of a group of student teachers might receive such training) to see if teacher understanding and, hopefully, behavior changes. Whichever of these, or other, alternatives a school might elect, it would be desirable for persons trained in psychology, sociology or anthropology to be involved in designing research and in carrying out appropriate procedures.

## CHAPTER IV

## SUGGESTED PROPOSALS FOR INDIVIDUAL RESEARCH PROJECTS

The proposals for individual projects contained in this chapter are directed toward the same broad areas of concern and fall into the same categories of the framework described in Chapter III. These proposals are suitable for development as individual research projects for city school systems; colleges and universities; and for co-operative efforts of schools and colleges and universities. It is noted again that these proposals are intended to be illustrative in nature. Considerable refinement and design development will be required before any of these proposals could be implemented. Ten proposals are for demonstration projects, four are of the researchable modifications type, and one is classified as basic research.

### SUGGESTED DEMONSTRATION PROJECTS

(See next page for first project)

## The Effect of Group Appointments of New Teachers to a Given School

### Problem

For the newly appointed teacher, a major problem is to secure support from peers and to overcome normal feelings of inadequacy in facing the problems of a beginner in a difficult situation.

### Objective

The objective is to determine whether new teachers, appointed as a group, will sustain and support each other in a professional manner and contribute to their effectiveness as teachers and to the stability of the staff of a local school in a culturally deprived area of the city.

### Procedure

In assigning new teachers, appointees who have done their student teaching together (in the same school) will be assigned to that school if appropriate vacancies exist. Otherwise, as a group, they would be assigned to a similar school. A second group might consist of experienced teachers transferring from within the school system. A third group might be composed of experienced teachers recruited from outside the school system. A fourth group could be inexperienced teachers who have not had practice teaching in culturally deprived areas. For the last three groups it would be necessary to plan rather elaborate orientation sessions before the opening of school so that the group could become acquainted and learn as much as possible about the social milieu of their school.

After such group assignments have been made over a period of several semesters or years, the personnel records of the schools involved should reveal significant data as to the effect of group assignments on stability of the staff in these schools as compared with similar schools where no group assignments had been made.

## The Recruiting and Retaining of Beginning Teachers in Urban Schools

### Problem

This study would attempt to attract, to urban teaching, additional groups of students from liberal arts and other groups from the general population that had not previously considered teaching in the cities as a profession.

### Objectives

The objectives are (1) to obtain data regarding the career patterns of selected populations in addition to those currently preparing to enter, or currently enrolled in, teachers' education programs; (2) to increase the number of applicants who seek positions in urban schools upon completion of pre-service preparation programs; and (3) to increase the number of teachers who complete their internship or first year of in-service teaching.

### Procedure

The project would establish a joint college and public school Committee on Teacher Preparation for Urban Areas in selected cities. A six year sequence of professional laboratory experiences beginning in the senior high level and culminating in an in-service internship would be developed. Newly committed students could feed into the program at any point. Students would be paid according to a sliding pay schedule commensurate with their responsibilities as teacher aides, assistants or interns. A plan would have to be developed to secure support and administer payments. Means would be developed to assess the causes of students' dropout during preparation, or their failure during the first year internship period.

## Controlled or Planned Induction of New Teachers into Culturally Deprived Schools

### Problem

The overall problem is to reduce teacher turnover in schools serving culturally deprived areas.

### Objective

The question to be answered is whether a structured or controlled introduction of new teachers into problem schools will improve the chances of getting them to accept appointments and to find professional satisfaction in permanent assignments to such schools.

### Procedure

A series of experiences is proposed including any or all of the following:

1. Introduction of new teachers to two or three other teachers being assigned to the same school,
2. Briefing on sociological background of the school population with emphasis upon underlying similarities of all children despite the obvious low income and ethnic and social differences. The psychology of minority groups should be discussed together with prevalent attitudes of majority groups toward them. Specific suggestions about avoiding stereotype-based behavior by teachers is imperative.
3. Briefing on control techniques and possible modification of instructional materials is indicated. Information to feed into this briefing should come from classroom teachers and, if possible, should be transmitted by them to the new teachers. Ideally, teachers now performing successfully in these buildings or similar buildings should be in charge of these briefings.
4. Controlled first contact or welcome should be provided from a "buddy" teacher or teachers in their first days or weeks of service in the school.

A test of the procedure would involve the application of controlled induction to some new teachers and not to others in buildings randomly selected from those in deprived areas. Records should be examined backwards (for the years 1960, 61, 62 and 63) and then, following application of controlled induction, compared with the years, 1964, 65 and 66. Objective data would be available on such items as transfer requests and resignations. Other measures could be developed to sample morale of teachers and pupils in the two comparable situations.

## Identification and Development of Effective Skills for the Administration of Gray Area Schools

### Problem

The study would attempt to find ways of securing adequate educational leadership to deal with the manifold problems of pupils, teachers and parents in schools serving culturally deprived neighborhoods.

### Objectives

The objectives are (1) to discover and establish procedures to identify how a successful principal uses his understanding, skills and special abilities in maintaining high morale among teachers and pupils in what would otherwise be problem schools and (2) to incorporate these findings into the selection or promotion process and into the training of prospective administrators.

### Procedure

Successful principals of such schools would be identified in a given city. Each one would be asked to list the factors to which he attributes his success. His teachers would be supplied with reactive forms to secure their qualitative judgments. More objective data might be secured by analysis of such factors as:

pupil achievement
pupil attendance
suspensions
drop-outs
retardation

teacher morale
teacher turnover
transfer requests
parental complaints
teacher absences

Once the skills and qualities have been identified in several schools, with several principals included in the study, generalizations may be made and the data collected may become a part of local in-service education programs for administrators, college and university post-graduate courses and selection process for administrative internships or for administrative appointments in the city.

# Improvement of Professional Self-Esteem of Teachers in Gray Area Schools

## Problem

The problem is to retain or regenerate enthusiasm and the application of inventive resourcefulness in meeting the problems of teaching and learning in culturally deprived schools.

## Objectives

The aims are: (1) to develop procedures in local schools which will encourage and support efforts to break through the "status quo" expectations of teachers and pupils and (2) to get teachers to be innovative and to try out promising instructional practices in their own classrooms.

## Procedure

The instruction and operation in individual elementary schools (under the leadership of the principal or other administrative personnel) would include a plan for: (1) continuing face-to-face oral communication in frequent and regular meetings of small groups of teachers concerning problems of instructional materials, teaching practices, ideas for innovations and reports to each other on innovations being tried out. (2) Use of an informal "house organ" for the school staff, reporting brief descriptions (not evaluations) of innovating practices or projects of individuals or groups of teachers working together.

It is presumed that this procedure will result in (1) an increase in teacher morale and professional self-esteem; (2) an increase in the number of innovations or quasi-experimental projects carried on in a building; (3) an increase in teacher-initiated consultation with the principal or supervisors on instructional problems; (4) an increase in teacher-initiated requests for "outside consultants"; (5) an increase in teachers' suggestions and requests for authorization and support of tryout of changes in materials, practices and programs.

It is presumed also that there would be qualitative changes in teachers' expressed concerns, anxieties, gripes and criticisms, viz., (from) "What can you expect from these kids, anyway?" (to) "What are some alternative possibilities regarding materials and procedures we might try out?" A more realistic attitude may be anticipated in regard to recognition of the broad context of causal factors relating to low levels of school learning and an increase in verbal expression of confidence in the long-run possibility of improving learning, even though progress is slow.

## Preparation of Teachers for Culturally Deprived Schools Through a Variation of a MAT Program

### Problem

This study would identify a group of intelligent and interested liberal arts graduates for teaching positions in urban schools as a variation of a MAT Program.

### Objective

The objective is to prepare liberal arts graduates for teaching positions in culturally deprived areas through a 3-year on-the-job training program.

### Procedure

Representatives of college and school systems would screen applications from liberal arts graduates to determine those candidates who possessed dedication to the task of the teaching in culturally deprived schools and who possessed characteristics deemed desirable for successful teaching. Eighty interns would be selected and assigned to teaching positions in schools where greatest need for teachers exist. In the summer preceding their initial assignments, the university would provide the interns selected with an intensive seven week period of study of the school as a social institution and an opportunity to observe public schools in summer session. An attempt would be made to reduce class size and to eliminate a number of teachers' duties in the initial teaching assignment in the fall. On-the-job help would be provided by a team in the school consisting of a regular teacher, department chairman, special subject supervisor and administrator. The interns would be required to participate in one seminar per week and to attend classes in the summer. This study would lead to the awarding of a M. S. in Education deg ee at the end of the 3-year period. A commitment will be made at the end of the 3-year period to the intern for regular appointment to the school where he has been teaching, if the intern is successful in his study in the university and in his teaching in the school.

## Pre-Service Aide Program in Difficult Schools

### Problem

This study would attempt to recruit effective teachers for problem schools by recruiting volunteers early in their college careers and by paying them for part-time services in the problem schools.

### Objectives

The objectives are (1) to recruit effective teachers for problem schools; (2) to give part-time employment for the prospective teacher; (3) to provide the opportunity for prospective teachers to work with culturally deprived pupils.

### Procedure

The project would develop a cadre of teacher training volunteers for service in problem schools. Volunteers would be recruited early in the freshman year. From a list of problem schools provided by the public schools, the volunteer would select a particular problem school where he wished to train. A committee of teachers and the principal of the particular school, in addition to a college supervisor, would plan a program of experiences for the aide. Course materials would be adapted to support the work-experience program. Student teaching experiences and placement would be arranged for the same school. During the pre-service period, part-time paid experiences would be provided for such services as tutoring, serving as assistant teacher and performing community services.

## Residential Center for Teacher Preparation for the Inner City

### Problem

This study would attempt to develop a better way of providing training experiences for teacher candidates for the inner city through the establishment of a residential teacher preparation center.

### Objectives

The objectives are (1) to develop a co-operative program, involving a city school system and a teacher training institution of teaching experiences and learning activities for teachers of inner city children; (2) to test the hypothesis that such a program of instruction will stimulate college graduates to teach in the inner city and will adequately prepare them for such service.

### Procedure

The project would establish a residential center in an urban renewal area to service a cluster of schools. The center would accommodate the interns and two staff members with competence in the fields of sociology, psychology and reading to serve as directors. The interns will be available for after school student activities and excursions, as well as to consult with parents on individual student problems.

In addition to the project directors, there will be selected resident professors, critic teachers and other professionals attached to the project. It is intended that a cycle should consist of three years with a one year internship and two years of residence for the candidates. The two year residence assignment would not necessarily be carried out in the demonstration area. The residency could be carried out in some other inner city school which met the criteria of the program.

## Improvement of School Programs Through Parent Involvement

### Problem

Children's low accomplishment and consequent loss of interest in school is related to those value patterns in the child's home and community environment where little regard is held for successful achievement in school.

### Objective

The aims are to provide opportunities for, and to enlist culturally deprived parents in, many and varied activities related to school and neighborhood with the supposition that, as understanding and attitudes of parents change, so will the achievements and expectations of their children. Thus, the involvement of parents in many and varied activities related to school and to neighborhood will have a two-fold effect: (1) strengthening the classroom performance and behavior of the pupils and (2) upgrading the values of the parents in the neighborhood.

### Procedure

The course of action would follow this plan:

1. Ascertain the personal-social backgrounds of those parents who are now actively participating in PTA, youth, church, school, fraternal and civic programs.

2. Saturate the nonco-operative parents with a wide variety of such school and community activities as visits to home; visits to school attendance at "School Nite;" participation in PTA activities. Provide after-school programs in library or study hall; get these parents to take part in supervising of lunchrooms and in gripe sessions centered at school.

3. Collect "then and now" data, in time sequence study, for pupils and parents on such variables as attendance, tardiness, retention, marks, achievement measures, behavior and misbehavior, extra-class activities in school and community, homework assignments completed, attitude toward school, delinquency cases, property damage, drunkenness, mobility and agency contacts.

4. Obtain the co-operation of all other civic, fraternal, religious, social and welfare agencies in providing participation expenses and in collecting data for selecting criterion groups and for evaluating change. In those cities which have received planning grants for delinquency prevention and control, an effort would be made to enlist the aid of the overall

planning body.

5. A Welcoming Committee, composed of community leaders and teachers, should be established to assist new in-migrant families to find their way in their new environment. In many cases some members of this committee will need to be bilingual.

## A Practicum in Citizenship for Culturally Deprived Students

### Problem

Social studies curriculums in schools serving culturally deprived students tend to remain highly abstract and to have little meaning or application for the child's immediate reality. This study proposes to establish a practicum in citizenship as an integral part of the high school social studies curriculum.

### Objectives

The objectivesof this study are (1) to heighthen the interest and aspirations of the culturally deprived student toward school; and (2) to stimulate him to learn the lessons of citizenship through concrete and meaningful opportunities, to practice good citizenship in the daily laboratory of the school, the neighborhood and the community.

### Procedure

Co-operation of community organizations, agencies and associations would be enlisted to establish and supervise practicum opportunities for citizenship study-action for an experimental group of senior high school students. The following experiences would be carried out with the experimental group:

1. Identify important local social and civic problems which call for study and improvement in the local school and neighborhood (prejudice, employment, recreation, housing).

2. Develop procedures for study of local neighborhood problems involving youth and adults as an integral part of the social studies curriculum.

3. Provide extended and intensive experiences to study, plan and carry out action programs aimed at the solution of a local social-civic problem. "Before" and "after" data in a time sequence study are to be secured of the changes on such variables as: school grades, attendance, test scores, attitude changes, aspiration level, behavior, delinquency tendencies, community activities and roles, and leadership behavior.

# Early Reading Readiness Instruction for Children from Culturally Deprived Areas

## Problem

This study seeks to determine if reading retardation may be prevented by providing children from culturally deprived areas with reading readiness instruction at an early age.

## Objective

The study seeks to answer whether retardation in the development of reading skills caused by cultural deprivation can be overcome by earlier school entrance, longer exposure to the school environment in these early years and by direct emphasis in the curriculum on materials and activities designed to develop reading readiness.

## Procedure

Children from culturally deprived areas would be accepted for school entrance at ages three or four instead of ages five or six. The existing pre-first grade program would be restructured to provide: (1) an extension of the in-school time from the traditional one-half day; and (2) a direct emphasis on the use of reading readiness materials and activities designed to overcome the cultural deprivation of the students. Upon completion of the pre-first grade program, these students would receive reading instruction at the primary level designed to provide a continuous learning opportunity. The achievement of the students would be measured at specific points in time and would be followed-up through the elementary years. Appropriate statistical treatment would be used to evaluate the program.

## Clinical Remedial Reading Training for Teachers in Urban Areas

### Problem

This study would provide teachers in urban schools with clinical remedial reading training.

### Objectives

The objectives are (1) to determine the increased effectiveness of teachers who have received training in clinical remedial reading to aid students in culturally deprived areas as a foundation for better academic achievement; and (2) to compare the effectiveness of these teachers with an equal number of teachers not trained.

### Procedure

A group of seniors in education would be divided into an experimental and a control group; the experimental group would receive a thorough training in clinical remedial reading. After completion of the training the students would be matched and assigned to carefully selected schools in culturally deprived areas in comparable teaching positions. Achievement of the pupils would be measured, using the standard procedures presently available. Measurement of attitudes of the pupils toward reading and reactions of teachers regarding values of the experiences would be gathered.

# Creation of a Leadership Corps During Pre-Service Training for Career Teaching Positions

## Problem

This study would develop a hierarchy of career teaching positions and would train pre-service teacher candidates who exhibit leadership potential.

## Objectives

The objectivesare (1) to develop a pre-service teaching program for potential career teachers; (2) to develop a corps of potential career teachers; and (3) to develop career teaching positions by university and school officials.

## Procedure

An effort would be made to identify, early in the pre-service experience, teacher candidates who exhibit leadership qualities. This group would be invited to take additional special training in instructional supervisory leadership; group dynamics; and analysis of specific roles of career teaching positions. Internship experience would be provided with career teachers which would focus not only on learning "how to teach" but also on "how to lead." Recommendations would be made at the time of completion of training to employing school district concerning evaluation of leadership potential. Specific assignmentsof these specially trained teacher candidates to schools would be made with eventual leadership roles in mind.

## Joint Employment of the Supervisors of New Teachers by the School District and by the Teacher Education Institution

### Problem

It is proposed the teacher education institution should retain an active interest in and concern for the professional growth and welfare of their graduates during the initial year of employment or longer; that the training institution should have a part in sustaining the fledgling through this trying period to benefit the teacher concerned and to keep the teacher education program in tune with the changing social scene as well.

### Objectives

The objectives are (1) to facilitate the induction process of beginning teachers; (2) to develop and sustain morale; and (3) to stimulate and encourage the development of appropriate professional behavior through the use of supervisory personnel appointed jointly by the teacher education institution and the city school system.

### Procedure

The plan would combine and integrate the effects of formal academic education and on-the-job training.

The effectiveness of this procedure may be tested by an experiment employing "X" number of beginning teachers with the joint appointment type of supervision and a similar number of beginning teachers who do not receive this type of assistance.

Another procedure would be to use a series of measures similar to those to be utilized above, but taken over a period of time, during two or more years of teaching.

A variety of measures could be utilized, viz., tests and reactive devices to measure morale; tension-reducing types of assistance; types of teacher behavior, such as innovation; suggestions for change of practice or teaching materials; and willingness to assume professional responsibilities in the school.

## BASIC RESEARCH

### The Impact of Poverty on Teaching and the Instruction of Children in City Schools

**Problem**

Children from impoverished families typically are requested to bring money to school for various purposes. This is a hidden cost which effects the diet, the clothing and the family morale, especially when there are several school-age children in the family. This factor may have an important impact on the perceptions which the child has of the school, on his performance and attendance, on his health, on the drop-out rate and on the effective socialization process in the school.

**Objectives**

The objectives are to determine: (1) the nature and extent of these hidden costs, and (2) the effect on pupils and teachers in the operation of schools with a high incidence of poverty. It is assumed that teachers, being aware of the limitations poverty places on children, will have changed perceptions and greater understanding of children's problems, and that there may be a lessening of requests for transfer from such teachers.

**Procedure**

The study would attempt to record the relationships that may exist between economic deprivation, student attitude and success in school. Three comparable schools, some distance apart, in deprived areas, would be selected. One would be a "free" school in which no fees would be collected from pupils, one would have restricted fees (on limited, selected items only), and the third would have no change in its procedure except to keep records on all fees collected.

Data collected in the three schools would include for students such items as:

attendance rates
truancy rates
participation in school activities
(number of times)
days of greatest absence
achievement scores
health statements
drop-out rates
morale statements

Data collected in the three schools would include for teachers such items as:

morale statements
attitudes toward poverty
applications for transfer
resignation from system
absence rates

## CHAPTER V

## RECOMMENDATIONS

In retrospect, outcomes of the Seminar on Teacher Education are many, varied and far-reaching in their implications for immediate and long-range change. The goals of the seminar were important, but even more than the objectives of the seminar was realized. Improved communication was established between the staff members of each city school system represented and at least one of the major colleges and universities that provide teachers for that system. Both the pressing need and the high value of continued communication and collaborative action, not only on a one-to-one basis but also on a multiple-institutional basis--for example, through the Great Cities Research Council--were recognized and endorsed by those present. Areas for action of various kinds were identified and explored, and a framework for their consideration was developed. Other important areas were listed and discussed only briefly due to the limitations of time, the lack of participants in the group having the types of competencies required for specialized studies, or because it was known that other teacher education conferences, already scheduled, would deal with the areas listed.

### Publication of Monographs

One of the objectives of the seminar, the publication and distribution of a monograph summarizing the results of the conference, will be realized through this report for distribution to both city school systems and colleges and universities that provide teacher education and to the United States Office of Education. Papers prepared for the seminar and materials developed at the conference are of such importance to urban teacher education that wide distribution of the report is strongly recommended. The Office of Education is urged to publish this report in monograph form.

## Action Requested of Great Cities

This report will be presented for action to the members of the boards of education and the superintendents of the fourteen large cities that constitute the membership of the Research Council of the Great Cities Program for School Improvement. Along with this recommendation goes assurance that participating colleges and universities can be counted on for assistance.

## Organization Needed

Possible patterns of organization for action are many. One or more central projects may be adopted by the Great Cities Research Council. Each city may engage in projects that are segments of the central project.

Through an exchange of information, all cities can benefit from the efforts of the others. Some central projects may involve only the school systems while others may result in a joint effort of the colleges and universities and the city school systems. The latter may be developed with each city school system, collaborating on its segment of the central project, with one or more colleges and/or universities.

Other central projects may be organized in the same way as that described, but the project selected may be one that is replicated in various cities. Details of this type of central project may vary from city to city, but the data collected and the treatment of it would remain constant in all cities. Replication projects may involve the city schools alone, the schools and colleges and universities, or only the colleges and universities.

In addition to central projects, studies may be undertaken by one city school system or a cluster of them, by one school system and one college or university or by several school systems each with a college or university, or by one or a number of colleges and universities. In each instance where there are two or more co-operating units, studies may supplement or replicate each other.

It is suggested that, regardless of the pattern of organization, action by the urban school system and/or colleges and universities be along the lines described in Chapter III of this report. Thus, there may be demonstration centers that involve intra-comparisons, experiments that involve modification of existing patterns or practices and inter-comparisons, and basic research that involves data gathering and statistical treatment to produce information important to the improvement of urban teacher education.

Long Range Studies

The need for some long range studies, as well as some "crash" programs, and others that in general fall somewhere in between in the time required for their completion are needed. Priorities will be established by the individuals and groups who elect to work on any of the proposals suggested on the basis of their needs and orientation. It is entirely possible that the Great Cities Research Council may activate a central project of a demonstration nature, and that in addition, individual member cities of the Council and their nearby colleges and universities may simultaneously engage in individual projects of other types.

Regardless of what proposals are accepted for action by the Great Cities as a group, by any one of them, or by anyone else, the projects as they are described herein will require development by school and college and university staff, including research design personnel.

## Data Collection and Dissemination

The need for essential "social bookkeeping" and for the exchange of data on a continuing basis seemed clear to seminar members. To achieve this purpose, the types of data that should be gathered and desirable methods of "bookkeeping" need to be identified by the appropriate school and college and university personnel. It is suggested that the data to be gathered include information on recent developments in the education of teachers for the Great Cities. In addition, information on "career patterns" of teachers in urban areas are necessary to provide a basis for administrative decision and research.

The members of the seminar felt that the need for the exchange of information on a continuing basis could be met through publication of a Great Cities Journal of Teacher Education. The Journal should be established and underwritten by the Great Cities. It should be devoted to research and experimentation related to urban teacher education.

Publication would be under the direction of an editorial board and the Journal would be edited by a scholar in the field of teacher education.

## Great Cities Research Advisory Panel

Stimulation of sound and significant research could be accomplished through establishment by the Great Cities of a Great Cities Research Advisory Panel. The Social Science Research Council might serve as a model for the Advisory Panel, both in the spirit of the Council's operation and in composition. The Great Cities Research Advisory Panel, in composition, would be representative of the research community and the administration of the Great Cities Schools. Its objectives would include stimulation and co-ordination of basic and applied research on problems of teacher education in the Great Cities.

## Survey of Literature

Recommendations in this report would not be complete without a final one urging the undertaking of a major survey of the literature with reference to urban teacher education. The literature searched should include not only teacher education but also the materials from related fields that might have implications for urban teacher education including the fields of psychology, political science, anthropology and sociology.

## In Conclusion

The magnitude and urgency of improvements in teacher education for the Great Cities have not been diminished since the beginning of the conference. As the meeting ended, however, from the comments of the participants, it was clear that new insights had been acquired. On the part of the college and university representatives, there were new dimensions to their understanding of the realities of the operational situations in city schools; on the part of the school representatives there were new depths to their conceptualization of the potential of collaborative action on common problems; while on the part of both there was commitment to action.

The commitment to action demands bold and honest research directed toward a continual reappraisal of teacher education. The need for such a reappraisal was stated clearly by Elmer Smith when he said: "There are compelling reasons for a reappraisal of teacher education in America at this time. Along with public clamor for better quality in education, despite the fact that many who ask for quality seem uncertain as to what it is or how it is to be achieved, there is a coincident concern within the profession for the better preparation of teachers."[1] Better preparation of teachers requires the interest, policy judgments and instructional contributions of specialists in the behavioral sciences, teacher educators, research design authorities and professional personnel in school systems. The Research Seminar on Teacher Education and its achievements indicate clearly the feasibility and desirability of continual reappraisal of teacher education through research and experimentation which involves various specialists who have a responsibility for preparing teachers.

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[1] Elmer Smith (ed.), Teacher Education: A Reappraisal. New York and Evanston: Harper and Row, 1962, p. 1.